NORTH AMERICAN BOTANY;

COMPRISING THE

NATIVE AND COMMON CULTIVATED
PLANTS,
NORTH OF MEXICO:

GENERA ARRANGED ACCORDING TO THE ARTIFICIAL AND NATURAL METHODS.

BY AMOS EATON, A. M.,
SENIOR PROF. RENSSELAER INSTITUTE;
Member of the Institutes, Academies, Lyceums, and other Learned Societies in Philadelphia, New-York, New-Haven, Albany, Troy, Utica, Detroit, &c.

IN THE PRESENT EDITION THE AUTHOR IS ASSOCIATED WITH

JOHN WRIGHT, M. D.,
PROF. VEGETABLE AND ANIMAL PHYSIOLOGY IN RENSSELAER INSTITUTE;
Member of Yale College Natural History Society, Member and Official Lecturer in Troy Lyceum of Natural History, and State Botanist in the Geological Commission of Michigan.

EIGHTH EDITION;

With the very valuable additions of the Properties of Plants, from Lindley's New Medical Flora.

That existence is surely contemptible, which regards only the gratification of instinctive wants, and the preservatian of a body made to perish.—*Linneus.*

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TO THE

REV. ELIPHALET NOTT, D. D.,

PRESIDENT OF UNION COLLEGE, SCHENECTADY, N. Y.; PRESIDENT
OF RENSSELAER INSTITUTE, &C. &C.

SIR,

For the last ten years, the reputation and (it is hoped) the benefits of this institution have been greatly promoted by your care and watchfulness over it, and by your wide-spread influence. You are, therefore, entitled to the first place in the memory of its teachers, whenever their labors may take a form admitting of a dedication. And as preceding editions of this general system of North American Botany have procured for it a fair name, and as this edition is much improved, both in plan and execution, I have ventured to trust that you might deem it worthy of some consideration.

I, therefore, in accordance with the desires of numerous graduates, students, and my colleagues, dedicate to you, this (at least laborious) work on an important branch of Natural Science, as a small testimonial of my, and their, grateful acknowledgements.

AMOS EATON, *Senior Prof. in the Inst.*

Rensselaer Institute, Troy, N. Y.
April, 1840.

SPECIAL DIRECTIONS AND NOTICES.

Rules for correcting mistakes in this book.—The mistakes are few; but all books, wherein errors cannot be corrected by the sense, ever did and ever will contain some errors.

Classes and Orders. Compare them under the heads of genera and species.

Natural Orders. Compare them under the heads of species, and Jussieu's centigrade.

Genera. Compare them under the generic head, the head of species, and with their etymologies.

Species. Compare them as they are often used under numerous different genera; allowing for case and gender.

Technical terms, used in descriptions. Compare them with those in the Botanical Dictionary, and thus approximate the truth, and then consider the context.

Running head. Correct these and analygous errors by common sense.

Until the species were printed as far as Malvaviscus, p. 314, it had not occurred, that T. & G. should have been inserted where T. alone was inserted, also that T. alone should have been inserted where T. & J. were inserted.

Rosa sabifolia should be Rosa rubiginosa. In this edition, as well as in former editions, we use italic instead of greek letters, for the sake of economy. As Gr. is always prefixed, no inconvenience can accrue. We exclude capitals, by using colons in place of periods, in descriptions. Also exclude capitals, when specific names are made of proper names. We have the authority of Persoon, where localities gave specific names. Since his time more specific names are derived from names of botanists, than from localities; consequently we have still higher motives of economy for excluding capitals in these cases. No inconvenience attends this practice.

Avoid misconception in the late application of *gymnospermia*, by authors. All seeds have a covering, called testa, tripple cuticle, &c. This is very manifest on the peas and apple seed. It is said to be divisible into three coats. It has recently been discovered that not only the seed, within described pericarps, are covered; but that all seeds, excepting those of *conifereae* and *cycadeae*, have acheneous coats or *tunics*, outside of the testa, which bear stigmas. Such coverings, with their seeds, are called *achenes;* as of sunflower seed, borage, carrot, Indian corn. To avoid confusion, such coverings should be called *tunics*, not fruits. *Gymnospermia* should retain its original application. *Achitospermae* (*a*, without; *chiton*, tunic; *sperma*, seed;) should be applied to pines, cedar, yew, and sago. N. B. On p. 539, Wild. should be *acheneous.*

PREFACE.

As about eleven thousand copies of former editions are in the hands of Botanists, a descriptive preface is not required. A few extracts and references may, however, be acceptable, on the origin and progress of this work.

In May, 1810, I made the first attempt in this country at a popular course of lectures; with a view to make practical Botanists of young persons of all conditions and pursuits. For this class I compiled a small elementary treatise. During that course I received a letter from Dr. D. Hosack, (my teacher in 1802.) I make the following extracts from that letter.

"New York, August 30, 1810.

"Dear Sir,

"I received yours of the 8th instant, and am happy to be informed of the progress of the Botanical Institution at Catskill, under your direction. You have set an example that, I doubt not, will be followed by many, if not most, of the Academies throughout the State."

"You have adopted, in my opinion, the true system of education; and very properly address yourself to the senses and to the memory, instead of the faculties of judgment and reason, which are, comparatively, of slow growth. * * * * To your pupils and their teacher, as first in the field, much praise is due. I doubt not they will reap both pleasure and profit, as the reward of their enterprize. If I can contribute to either, I shall be happy to do it, in any manner that you may suggest."

* * * * * * * * * * *

In 1816, I translated from Pursh, Persoon and Michaux, and made extracts from other authors, sufficient to furnish materials for the first edition of the Manual of Botany. I was favored with books and advice by Prof. Ives of Yale College; also with books by Gov. Clinton, of New York. The first edition was published in a very contracted form, by seventy-two students of Williams College, Mass., as no bookseller would risk the publication. A thousand copies were published and ready for use in June; and not a copy was left in market after six months. An enlarged edition was ready in the spring of 1818. Now the 8th edition is completed.

The following extract from the present publisher's circular will give all further account of the progress of this work, which will be desired by readers. His circular was issued February 1, 1840.

"To Botanists and their Pupils, who have contributed to, and patronized, the MANUAL OF BOTANY, through the seven preceding Editions:*

"Most of you remember, that the first spark of zeal for Botany, as an Academic study, was the scintillation produced by legislative collision; when the question on the purchase of Dr. Hosack's garden was agitated in the New York legislative assembly. You will also remember, that this treatise was well-timed; by coming out when we had no substitute in English. Bigelow's Boston Florula, and Muhlenburg's Catalogue, were our only guides, until the learned work of Frederick Pursh appeared. This being in Latin, it did not check the progress of the Manual. You all united in its support, and carried it on by your liberal contributions, unto its seventh edition in 1836. For more than a year it has been out of the book market; though loudly called for by you, and by those who have been accustomed to asking your opinions."

"Age, and declining vision, have admonished the author that he must call in the aid of youthful zeal, with talented energies, to supply his loss by the waning of years. He has been so fortunate as to succeed in associating Dr. JOHN WRIGHT with him in this edition. He is a very zealous and accurate young naturalist. After some years of ardent devotedness to the Natural Sciences at this institution, he had the benefit of Professors Ives' and Silliman's instructions at Yale College. He has since been united with Prof. Hall in the descriptive catalogue of Troy Plants. In the summer of 1838 he collected and reported, the plants of Michigan, as official Botanist to the State Geological Commission."

"Dr. Wright is now going through all the generic and specific descriptions; correcting and modernizing the language, as far as may be done, without departing from the original simplicity of manner, peculiar to this work. New, and well authenticated discoveries, are also added by him. He has before him the works of Lindley, Torrey, Darlington, Hooker, Beck, &c. The contributions of many friends, in catalogues, letters, and rare plants, afford him many facilities."

Dr. Wright has now completed his labors to my entire satisfaction; and to the satisfaction of those learned friends, to whom I have referred the sheets. To do even tolerable justice to those Botanists, who have given me direct information by correspondence and personal conversation, would require a volume. I should do violence to my own feelings in naming one, without adding scores. It would too far extend this volume, even to name published authorities in all the cases where I have quoted.

A word to Teachers.—*To you I address a few lines, as a humble suppliant.*

If you have any respect for yourselves or for human science, I beg that you will never lend your aid in that public imposition, which has, within the last dozen years, degraded and debased the study of Botany. I mean that of pretending to teach Practical Botany by school lessons, without having each student hold in his hand a system of plants and living specimens for perpetual demonstration. Botany must be taught in the summer season only; unless the student studies in a green-house, containing several hundred flowering species of plants. Even then, a winter course is a miserable one. The student ought to collect in the field; but a collector may be hired for about two dollars per hundred, for four or five hundred species, if the class amounts to twenty persons. In performing this duty, he collects and puts in press in good order; the student furnishing paper and press. But all gentlemen students should collect their own plants in the field. At any rate, it may be asserted confidently, that there is not a botanist in the world, and there can never be one, who has not analyzed and prepared with his own hand, at least three hundred species of growing plants. Few garden plants are fit for analysis. By rich culture they become unnatural and monsters. See pages 8, 12, and 16.

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* These five last editions extended to two thousand copies each—and one of them to two thousand five hundred.

The question may be asked, how can Botany be taught to those who cannot afford to give three dollars, or more, for a full System of Botany. I would answer by applying the same question to every branch of valuable learning; and I would answer all of them by saying—it is dishonest to take the property of students, under the pretence of teaching them, when you know that they cannot be taught by the means put into their hands. Postpone the study of any science, until necessary books can be procured. Time is worth more than books. Shall youth waste away, to accommodate a teacher or book-maker?

It is some times said, as a mere subterfuge, that Vegetable Physiology may be studied without living vegetables. It is true, that pictures may be studied; so may the picture of a blacksmith shoeing a horse, be *studied.* But can you become a blacksmith by studying this picture?*

The new terms introduced in this edition, are no more than appeared necessary in the present state of the science. They are so often repeated, that they appear numerous at first sight. The whole will hardly amount to one dozen. The chief are *sepal*, for the leaf of a calyx; *palea*, for inner chaff, or the petal of a grass flower; *glume*, outer chaff, or calyx; which saves numerous repetitions of calyx-glume, corol-glume, calyx-leaves, etc. *Sepal* expresses the same as "the leaf of a perianth calyx;" *palea*, the same as the valve of a corol; *glume*, the same as the valve of a calyx. *Achene*, or *akene*, is used for what was formerly considered as one of the coats of the testa, and the seed was considered as destitute of fruit. This covering ought to be called a *tunic*, to avoid confounding it, in language, with what was formerly considered as fruit. If we consider the achene as tunicated seed, as carrot, sunflower, savory, et cetera, it will accord better with former language. *Involucre* is now used instead of imbricated calyx, of sunflowers, lettuce, etc. See p. 78 to 84.

AMOS EATON.

TROY, N. Y., April, 1840.

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* In the preface to the seventh edition, the proprietor gives notice of a system of North American plants, prepared for common students, whose cost was less than a dollar. A new edition will be in the book-market for summer schools. It is called Botanical Teacher. All district schools may be conveniently taught with it, if the teachers (and perhaps a few older students) have large systems. Plants may be collected, analyized, and labelled by it, by the aid of teachers with large treatises; for the plants are contained in it which are in large Floras. Experienced botanists procure it for the pocket, when traveling on botanizing excursions.

NUMBER OF GENERA AND SPECIES IN NORTH AMERICA, NORTH OF MEXICO.

GENERA.

Number of native flowering genera	1011
Number of native genera of ferns	28
Number of common introduced genera	50
	1089
Number of genera of the five lower orders of Cryptogamia, published, but not all proved to be natives	236
Total genera published,	1325

SPECIES.

Number of native flowering species	4637
Number of native species of ferns	99
Number of common introduced species	350
Number of native flowerers, and ferns. and introduced	5086
Number of species of the five lower orders of Cryptogamia, published, but not all proved to be natives; neither is it probable that half of our species have been determined	900
Total species published,	5986

NUMBER OF SPECIES IN THE STATE OF NEW YORK,

Taken from the Report of State Botanist, Torrey. Reported January 24, 1840.

Number of all flowering and flowerless plants, about 2400.
Number of flowering plants, about 1350; ferns, 53. Total 1403.
Number of mosses, about 150; fungi, 300; algae unknown.
Trees and shrubs, 277 (150 medicinal): ornamental herbs, 250 (140 exotic); grasses, 116 (24 exotic); sedge grasses, 140, mostly carexes.

REFERENCES

TO BE MADE BY STUDENTS, UNDER THE DIRECTION OF A TEACHER, WHILE STUDYING BOTANY WITH LIVING SPECIMENS.

ABBREVIATIONS.

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For authors' names	15	For properties of plants	31
For time of flowering, color, &c.	15	For diseases	32
For localities	15, 16	For best authority for properties	32

SUBJECTS OF THE BOOK.

Artificial classification	11	Species of Fl. P. and ferns	111 to 485
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AUXILIARY EXPLANATIONS

FOR THE ANALYSIS OF PLANTS.

[See Botanical Dictionary attached to this work.]

CLASSES, ORDERS and GENERA, are distinguished by the organs of fructification. *Elementary organs of fructification are,*

1. *Calyx.* The outer or lower part of the flower, generally not colored.*
2. *Corol.* The colored blossom, within or above the calyx.
3. *Stamens.* The organs immediately surrounding or adjoining the central one; consisting of mealy or glutinous knobs, either sessile or supported on filaments.
4. *Pistil.* The central organ of the flower, whose base becomes the pericarp and seed.
5. *Pericarp.* The fruit, whether pod, shell, bag, or pulpy substance.
6. *Tunic.* The membranaceous covering of the seed; whether it is enveloped in fruit, or naked.
7. *Seed.* The essential part, which contains the rudiments of a new plant.
8. *Placenta.* A cellular substance to which seeds are attached, and from which they originate.
9. *Receptacle.* The base which sustains the other six parts, being at the end of the flower stem. It is called *torus*, when a thickened mass.

SUB-DIVISIONS OF THE CALYX.

Every calyx is either *monophyllous*, consisting of one leaf; or *polyphyllus*, consisting of more than one leaf. The divisions of the calyx are called *leaves*, or *segments*, in old authors; but they are called *sepals* by late authors, which is now adopted.

1. *Perianth.* That calyx which adjoins and surrounds the other parts of the flower, as of the apple, rose, &c. When sepal is used, it always implies the leaf of a perianth calyx.
   About two-thirds of all plants have perianths.
2. *Involucre.* That calyx which comes out at some distance below the flower, and not enclosing it. It is commonly at the origin of the peduncles of umbels, and sometimes attached to other aggregate flowers. The common calyx of a compound flower, is an involucre; as of the dandelion.

Involucres are either *universal*, placed at the origin of the universal umbel as in sunflower, caraway, lovage, &c.; or *partial*, placed at the origin of a particular umbel, as in coryander: or *proper*, placed beneath a single flower.

3. *Spathe.* A kind of membrane which at first encloses the flower, and after it expands is left at a distance below it; as daffodil, onion, Indian turnip.
4. *Glume.* That kind of calyx which is composed of one, two, or three valves or scales; commonly transparent at the margin, and often terminated by a long awn

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* In the language of Botany, any part of a plant is not colored when it is green; as the calyx of the apple is said not to be colored, because it is green; and that of the nasturtion is colored, because it is not green.

or beard. All grasses have glume calyxes. Glumes are, physiologically, bracts; but they are treated as leaves of the calyx in the descriptions of gernera. For the sake of precision in descriptions, the leaves or scales of the calyx are called *glumes:* omitting the word calyx or scale. And the petals or scales of the corol, are called *paleas;* omitting the word corol.

5. *Ament.* An assemblage of flower-bearing scales, arranged on a slender thread or long receptacle; each scale generally constituting the lateral calyx of a flower, as in the willow, chesnut, pine, &c. The hard scaly ament of pine trees, and the like, is called *strobile*, or cone.
6. *Calyptre.* The cap or hood of pistillate mosses; resembling, in form and position, an extinguisher set on a candle. Conspicuous in the common hair-cap moss.
7. *Volva.* The wrapper at first enclosing the pileus or head of a fungus, (toad-stool) and which, after the plant has arrived to maturity, contracts and remains on the stem at the root or foot of the stipe. Some toadstools have a *veil, (velum)* at the edges of the cap or head, which was at first attached to the stem by the lower edge. Some have a *ring (annulus)* on the stem, which was at first a part of the veil.

Sub-divisions of the Corol.

Every corol is either *monopetalous*, consisting of one petal or flower-leaf; or *polypetalous*, consisting of more than one.

Monopetalous Corols are,

1. *Bell-form.* Hollowed out within the base, and generally diverging upwards, as Canterbury bells, gentian, &c.
2. *Funnel-form.* With a tubular base, and the border opening gradually in the form of a funnel, as the thorn-apple, morning glory.
3. *Salver-form.* Having a flat, spreading limb or border, proceeding from the top of a tube, as lilac, trailing arbutus, &c.
4. *Wheel-form.* Having a spreading border without a tube, or with an exceeding short one, as borage, laurel, mullein.
5. *Labiata.* A labiate corol is divided into two general parts, somewhat resembling the lips of a horse or other animal.

Labiate corols are either *personate*, (with the throat muffled) as snap-dragon; or *ringent*, (with the throat open) as mint, motherwort, catnip, monkey-flower.

Polypetalous Corols are,

1. *Cruciform.* Consisting of four equal petals spreading out in the form of a cross, as radish, cabbage, mustard, &c.
2. *Caryophylleus.* Having five single petals, each terminating in a long claw, enclosed in a tubular calyx, as pink, catch-fly, cockle, &c.
3. *Liliaceous.* A corol with six petals, spreading gradually from the base, so as altogether to exhibit a bell-form appearance, as tulip, lily, &c.
4. *Rosaceous.* A corol formed of roundish spreading petals without claws, or with extremely short ones, as rose, apple, strawberry, &c.
5. *Papilionaceous.* A flower which consists of a banner, two wings and a keel, as pea, clover, &c., supposed to resemble a butterfly.

If a corol agree with none of the above descriptions, it is called *anomalous.*

Sub-divisions of the Stamen.

1. *Anther.* The knob of the stamen, which contains the pollen; very [illegible]s in the lily, &c. Never wanting.
2. *Pollen.* The dusty, mealy, or glutinous substance contained in the anthers. Never wanting.
3. *Filament.* That part of the stamen which connects the anther with the receptacle, calyx or pistil. Often wanting; generally thread-form when present.

Sub-divisions of the Pistil.

1. *Stigma.* The organ which terminates the pistil; very conspicuous in the lilly, and hardly distinguishable in the filament (silk) of the Indian corn. Never wanting.

2. *Germ, ovarium.* That part of the pistil which, in maturity, becomes the pericarp, as in the cherry, pompion. Never wanting. It encloses the ovules, which are the seeds when mature.

3. *Style.* That part of the pistil which connects the stigma and the germ; very conspicuous in the lily; wanting in the tulip.

SUB-DIVISIONS OF THE PERICARP.

1. *Silique.* That kind of pod which has a longitudinal partition, with the seeds attached alternately to its opposite edges, as radish, cabbage.
2. *Legume.* A pod without a longitudinal partition, with the seeds attached to one suture only, as the pea.
3. *Capsule.* That kind of pericarp which opens by valves or pores, and becomes dry when ripe, as the poppy, which opens by pores and the mullein by valves.
4. *Drupe.* That kind of pericarp which consists of a thick fleshy or cartilaginous coat, enclosing a nut or stone, as in the cherry, in which it is said to be *pulpy;* and in the walnut, where it is *dry.*
5. *Achene.* (acine) a dry indehiscent pericarp, small and seed-like in appearance; as the ripened germs of the rose and crowfoot. A variety *caryopsis*, has the pericarp so closely attached to the *tunic*, that they are scarcely separable: as Indian corn, wheat, &c. [see Gray. p. 22-.] A variety *cremocarp*, consists of a pair of achenes laterally attached; as of carrot, angelica. They are often in double pairs, &c., as in the steen-crout, forget-me-not, hound-tongue, mother-wort, &c.
6. *Pome.* A pulpy pericarp without valves which contains within it capsules, or carpels, as apples, quinces, &c.
7. *Berry.* A pulpy pericarp enclosing seeds without any capsule, as currant, grape.
8. *Pepone.* A fleshy pericarp with a firm rind, and pulpy partitions, which often almost disappear in ripening; as gourd, pumpkin, cucumber.
9. *Strobile.* An ament with woody scales, as the fruit of the pine.

SUB-DIVISIONS OF THE SSEED.

1. *Cotyledon.* The thick fleshy lobes of seeds; very manifest in beans, whose cotyledons grow out of the ground in the form of two large succulent leaves. Many plants, as Indian corn, wheat, the grasses, &c , have but one cotyledon; mosses, &c. none. The part or organ producing the new plant (performing the function of a seed) is called a *sporule* in all cryptogamous plants; as toadstools, mosses, &c. Cotyledons are *incumbent*, when their backs are presented to the radicle; and *accumbent* when their edges are thus presented.
2. *Embryo. corcle.* The rudiment of the future plant embraced in the seed. It consists of the *radicle*, which becomes the root; the *plumula*, which becomes the herbage; and the *collet*, or *cauliculus*, which is a kind of neck uniting the radicle and plumula, and becomes the part of most plants just at the surface of the earth, where the root and stem take their respective directions upwards and downwards.
3. *Tegument, or integument.* The covering or bark of the seed. The tunic.
4. *Albumen.* This is not found in all seeds. When it is present, it is the dense part included between the tegument and embryo. It constitutes the chief of a kernel of Indian corn, and of some other monocotyledonous seeds. But it is often small, and is never present in peas or beans; the thick fleshy part of such seeds being the rudiments of cotyledonous leaves, which expand before the plumula ascends from between them.
5. *Hilum*, or *umbilicus.* The external mark, scar, or eye; being the place where the seed is connected to the point or placenta, from which it grows.

SUB DIVISIONS OF THE RECEPTACLE.

1. *Proper.* That which belongs to one flower only.
2. *Common.* That which connects several distinct florets, as in the sun-flower, daisy, teasel. A common receptacle may be,
3. *Rachis.* The filiform receptacle, connecting the florets in a spike, as in the heads of wheat.

4. *Columella.* The central column in a capsule, to which the seeds are attached.
5. *Spadix.* An elongated receptacle, proceeding from a spathe, as Indian turnip.

General Divisions of Flowers.

1. *Simple.* Having a single flower on a receptacle, as in the quince, tulip, &c.
2. *Aggregate.* Having on the same receptacle several flowers, whose anthers are not united, as teasel, button-bush.
3. *Compound.* Having several florets on the same receptacle, with their anthers united, as sun-flower, china-aster.
4. *Staminate.* Having stamens only, as those in the tassels of Indian corn.
5. *Pistillate.* Having pistils only, as the fertile flower of the cucumber.
6. *Perfect.* Having both stamens and pistils.
7. *Neutral.* Having neither stamens nor pistils.
8. *Complete.* Having a calyx and corol, as well as stamen and pistil.

Inflorescence.

The manner in which Flowers are situated on Plants.

1. *Whorl.* In which the flowers grow around the stem in rings one above another, as mother-wort, catnip.
2. *Raceme.* Having the florets on short undivided pedicels, arranged along a general peduncle, as currants.
3. *Panicle.* Having some of the pedicels, along the general peduncle of the raceme, divided, as in oats. A panicle contracted into a compact somewhat ovate form, as in lilac, is called *thyrse*.
4. *Spike.* Having the florets sessile, or nearly so, on the elongated general receptacle, as wheat, mullein.
5. *Umbel.* Having the flower-stems diverging from one place, like the braces of an umbrella, bearing florets on their extremities, as carrot, dill, fennel.
6. *Cyme.* It agrees with the umbel in having its general flower-stems spring from one centre, but differs in having those stems irregularly sub-divided, as elder.
7. *Corymb.* In the corymb the peduncles take their rise from different heights along the main stem; but the lower ones being longer they form nearly a level or convex top, as yarrow.
8. *Fascicle.* In general external appearance it resembles the umbel, but the foot-stalks are irregular in their origin and sub-division, as sweet william.
9. *Head.* In this the flowers are heaped together in a globular form without peduncles, or with very short ones, as clover.

Concentric Cylinders of Roots and Herbage.

The substance of Roots and Herbage consists of—

1. *Cuticle.* The thin outside coat of the bark, which seems to be without life, and often transparent. Very conspicuous on some kinds of birch, cherry, currant bushes, &c.
2. *Cellular integument.* The parenchymous substance between the cuticle and bark, generally green. Plainly seen in the elder, after removing the cuticle.
3. *Bark.* The inner strong fibrous part of the covering of vegetables.
4. *Camb.* The mucilaginous or gelatinous substance, which, in the spring of the year, abounds between the bark and the wood of trees.
5. *Wood.* The most solid part of the trunks and roots of herbs and trees.
6. *Pith.* The spongy substance in the centre of the stems and roots of most plants. Large in the elder.
7. *Medullary sheath.* A cylinder surrounding the pith, made up of spiral vessels and ducts, through which sap ascends.

ROOTS.

Roots are the descending parts of vegetables, and are *annual, biennial*, or *perennial.* They are of seven kinds.

1. *Branching.* Having the whole root divided into parts as it proceeds downwards, as the oak, apple tree, &c.
2. *Fibrous.* The whole root consisting of filiform parts, originating immediately from the base of the stem, as many of the grasses.
3. *Creeping.* Extending itself horizontally, and sending out fibrous radicles, as quack-grass.
4. *Spindle.* Thick at the top, and tapering downwards, as carrot, parsnip, &c.
5. *Tuberous.* Roots which are thick and fleshy, not of any regular globular form. They are *knobbed*, as the potatoe; *oval*, as those of orchis; *abrupt*, as the birdsfoot violet; or *fascicled*, as asparagus.
6. *Bulbous.* Fleshy and spherical. They are either *solid*, as the turnip; *coated*, as the onion; or *scaly*, as the garden lily.
8. *Granulated.* Consisting of several little knobs in the form of grains, strung together along the sides of a filiform radicle, as the wood-sorrel.

HERBAGE is all the plant except the *root* and *fructification.* It includes *stems, leaves* and *appendages.*

STEMS.

1. *Tige.* or *proper stem.* The ascending herbage-bearing trunk or stem of all phenogamous plants except the grasses, as the trunk of the oak, the grape vine, the mullein stalk.
2. *Culm.* The stalk or stem of the grasses, as wheat-straw, sugar-cane, &c.
3. *Scape.* That kind of flower-bearing stem which springs immediately from the root, and is destitute of leaves, as dandelion.
4. *Peduncle.* The flower-bearing stem which springs from any part of the stem or branches, as apple, cucumber, &c.
5. *Petiole.* The foot-stalk of the leaf.
6. *Frond.* Applied entirely to cryptogamous plants. It includes the herbaceous, leathery, crustaceous, or gelatinous substance, from which the fruit is produced, called the *thallus* or *hymenium*, when it bears fruit as the receptacle.
7. *Stipe.* The stem of a fern, of a fungus, of compound egret, and of a pericarp, when elevated from the receptacle; as of maiden hair, garden caper.

LEAVES.

Regular leaves never grow out side by side. The alternate position along opposite sides, seems to be the real *normal* principle of arrangement, towards which all other positions tend. Though we find them opposite and in whorls, our best physiologists ascribe this to the unequal developement (to which some plants are habitually subject) of the internodes of the axis.

The leaves of *exogenous* (dicotyledonous) plants derive their spiral vessels from the medullary sheath, which the structure of the ribs and veins greatly resemble. The cellular integument and cuticle of the leaf are derived from that of the stem: and become more or less expanded and attenuated. The veins of exogenous leaves branch off in various directions among the substance of the disk (made up of cellular integument and cuticle) called parenchyma.

The leaves of endogynous plants (monocotyledonous) derive their spiral vessels from bundles, diverging off as a sub-division of the general quantity of bundles constituting the whole culm, which the structure of the veins greatly resembles. Their veins mostly extend from the base of the petiole to the apex, or to a kind of corol or edging which carries them on, in an united state, to the apex.

The petioles of some leaves become spiral climbers, as of the Clematis. In many cases the leaf does not expand into a disk; but becomes two or more (rarely one) branches of a climber, called a tendril, as grapes and peas. Sometimes the petiole spreads into an enormous cup, as that of the Sarracenia, (side-saddle.) This cup is called an *ascidium*, (bottle-leaf.) (Greek, *askos*, the leathern bottle of the ancients, *idios*, peculiar or particular kind.)

Kinds of leaves, as distinguished by their form, surface, position, aggregation and duration.

In duration, leaves are evergreen, deciduous and caducous.

FORMS OF SIMPLE LEAVES.

1. *Orbicular.* Nearly circular, as the leaves of red clover, of cabbage, &c.
2. *Ovate.* Resembling the longitudinal section of an egg, the base being broader than the extremity. One of the most common forms of leaves.
3. *Oval.* Differing from ovate, in having both ends equal in breadth.
4. *Oblong.* The length more than twice the breadth, and the sides somewhat parallel.
5. *Obovate.* Ovate, with the narrowest end towards the stem, as those of red clover.
6. *Cordate.* Heart-shaped, the hind lobes being rounded, as lilac.
7. *Obcordate.* Cordate, with the apex or narrowest end towards the stem, as of wild indigo.
8. *Kidney-form.* Hollowed in at the base, with rounded lobes and rounded ends, as mallows.
9. *Lanceolate.* In the form of the ancient lance, tapering from near the base to the apex, and narrow, as the leaves of most of the willows, of ribwort, &c.
10. *Linear.* Continuing the same width through nearly the whole length; usually pointed at one or both ends, as most grasses.
11. *Awl-form.* Linear at the base and becoming more or less curved at the point.
12. *Acuminate.* Any kind of leaf terminating more or less suddenly in a point turned towards one edge of the leaf.
13. *Arrow-form.* Shaped like an arrow-head; differing from cordate in having the hind lobes more or less acute.
14. *Halbert-form.* Hastate. Shaped like an halbert, as field-sorrel, creeping snap-dragon.
15. *Guitar-form.* Oblong, broadish near the base and contracted at the sides.
16. *Lobed.* Deeply parted, and the divisions large, with rounded sides or ends, as the white oak.
17. *Palmate.* Resembling a hand with the fingers spread, as horse-chesnut.
18. *Pedate.* Resembling a bird's foot.
19. *Sinuate.* Having the margin hollowed with deep sinuses or bays, as the white-oak.
20. *Pinnatifid.* Divided transversely by deep incisions, not extending to the midrib.
21. *Lyrate.* Pinnatifid with the largest division at the apex, and diminishing from thence to the base, as hedge-mustard.
22. *Runcinate.* Pinnatifid, with the divisions pointing backwards, as dandelion.

EDGES OF LEAVES.

23. *Serrate.* Having sharp notches resembling saw-teeth along the margin, and pointing towards the apex, as those of cherry trees, roses, &c.
24. *Toothed.* Having projections from the margin of its own substance, which are neither serratures, nor crenatures, as those of the blue-bottle.
25. *Crenate.* Having uniform notches on the margin of the leaf which incline towards the apex, or the base, or neither, as gill-overground.

ENDS OF LEAVES.

26. *Emarginate.* Notched at the termination of the midrib.
27. *Retuse.* Emarginate with a shallow sinus.
28. *Obtuse.* Having the apex of the leaf more or less rounded.
29. *Acute.* Terminating in an angle; that is, not rounded.

SURFACES OF LEAVES.

1. *Hairy.* Having distinct, straight hairs.
2. *Downy.* Covered with fine cotton-like down.
3. *Silky.* Covered with soft close-pressed hairs.
4. *Bristly.* Set with stiff hairs.
5. *Ciliate.* Edged with parallel hairs or bristles, resembling eye-lashes.
6. *Nerved.* Furnished with mid-rib-like fibres running from the base to the apex.
7. *Veined.* Having tendinous fibres variously branched.

POSITIONS OF LEAVES.

1. *Decurrent.* When the two edges of the leaf extend along the stem below the place of insertion.
2. *Clasping.* Sessile with the base more or less heart-form, so as entirely or in part to surround the stem.
3. *Sheathing.* With the leaf prolonged down the stem, so as to cover it, in the manner of the grasses.
4. *Perfoliate.* Having the stem passing through the leaf.
5. *Connate.* Leaves opposite, with their bases united.
6. *Peltate.* With the foot-stalk attached to the lower side of the leaf, so as to resemble a shield.
7. *Opposite.* Standing at the same height with base against base.
8. *Whorled.* Surrounding the stem in horizontal rings or rows.
9. *Imbricate.* Lying over each other like shingles on a roof, so as to "break joints."
10. *Fascicled.* Growing in bunches from the same point, as leaves from white pine.
11. *Radicle.* Proceeding immediately from the root.

COMPOUND LEAVES.

1. *Ternate.* Having three leafets proceeding from the end of one petiole.
2. *Biternate.* Twice ternate; when the petiole is ternate, and each division bears three leafets.
3. *Triternate.* Three times ternate.
4. *Pinnate.* With distinct leafets arranged on opposite sides of the same petiole.
5. *Bipinnate.* Twice pinnate.
6. *Tripinnate.* Thrice pinnate.
7. *Interruptedly-pinnate.* Having smaller leafets dispersed among the larger, as potatoe.

Leaves and appendages used in descriptions.

Stipules are rudimentary leaves and sometimes are transformed into real leaves, with buds in their axils. They are generally appendages attached to the bases of leaves, as of rose leaves.

Bracts (often called floral leaves) are generally near the origin of a flower and at first surrounding or adjoining it. Bracts are at a small distance below the calyx, when present. The chaffs or husks of grass and corn, are strictly bracts; but in descriptions they are treated as equivalent to calyxes and corols.

Thorn, an abortive indurated bud fixed on the wood.

Prickle, arises from the bark by expansions in minute spots.

Hairs, arise in the same manner: sometimes they yield an acrid liquid by compression, as of the nettle.

Gland, a roundish (generally minute) appendage on various organs of some plants.

Tendril, a filiform appendage by which some plants climb other plants, fences, poles, &c.

LATIN AND GREEK NUMERALS, AS USED IN COMPOSITION.

Before entering upon the study of the Natural Method, as well as of the Artificial, (and even before using the Botanical Dictionary), the student should be perfectly familiar with those numerals which are perpetually used in composition. They are the following; and are applied to classes, orders, &c.

Latin.	*Nos.*	*Greek.*	*Nos.*	*Classes.*
Unus,	1	Monos,	1	MONANDRIA, 1 stamen.
Bis,	2	Dis,	2	DIANDRIA, 2 stamens.
Tres,	3	Treis,	3	TRIANDRIA, 3 stamens.
Quatuor,	4	Tettares,	4	TETRANDRIA, 4 stamens.
Quinque,	5	Pente,	5	PENTANDRIA, 5 stamens.
Sex,	6	Ex, (pronounced hex.)	6	HEXANDRIA, 6 stamens.
Septem,	7	Epta, (pronounced hepta.)	7	HEPTANDRIA, 7 stamens.

Latin.	*Nos.*	*Greek.*	*Nos.*	*Classes.*
Octo,	8	Okto,	8	OCTANDRIA, 8 stamens.
Novem,	9	Ennea,	9	ENNEANDRIA, 9 stamens.
Decem,	10	Deka,	10	DECANDRIA, 10 stamens.
Undecem,	11	Endeka,	11	ICOSANDRIA, 20, and down to 10, on calyx.
Duodecem,	12	Dodeka,	12	POLYANDRIA, many, above 10, not on calyx.
Tredecem,	13	Dekatreis,	13	DIDYNAMIA, 2 longer than 2.
Quatuordecim,	14	Dekatettares,	14	TETRADYNAMIA, 4 longer than 2.
Quindecim,	15	Dekapenta,	15	MONADELPHIA, in 1 set by filaments.
Sexdecim,	16	Dekaex,	16	DIADELPHIA, in 2 sets by filaments.
Septemdecim,	17	Dekaepta,	17	SYNGENESIA, united anthers.
Octodecim,	18	Dekaokto,	18	GYNANDRIA, stamens on pistil.
Novendecim,	19	Dekaennea,	19	MONOECIA, same root, not flower.
Viginti,	20	Eikosi,	20	DIOECIA, different roots and flowers.
Multus,	Many	Polus,	21	CRYPTOGAMIA, stamens wanting.

The first ten numerals only are applied to the classes set opposite to them. See each class in the Dictionary.

ANALYSIS, FOR FINDING THE NAME OF A PLANT.

The art of searching out the name of a plant is denominated the analysis of the plant. It is, in truth, an elegant illustration of the *Analytic method* of logic; as the construction of a genus, order and class, is of the *Synthetical method.*

When we analize a plant by the aid of the artificial system, our final purpose is to ascertain the specific name, by which it is called by the first botanist, who *published* a description of it. But in doing this, we trace it through several intermediate steps. Species are grouped together under generic names; genera under orders; orders under classes. By this arrangement much labor is saved. For example, we see the common wild strawberry, for the first time, and are desirous to learn its name. By comparing the proper organs with the description of the classes, we find it belongs with the group of plants, which constitute a class, called *Icosandria.* This class is subdivided into orders, and we find our plant is to be referred to the order *Polygynia.* Here we find the names of several genera, such as rose, the raspberry, the strawberry, the five-finger, the avens, &c. On comparing our plant with all the genera under this order, we find it will agree with none but the strawberry.

On turning to the strawberry (under the botanical name *fragaria,* (p. 246,) we find there are several kinds of strawberry. Each kind is called a *species,* as the English strawberry, hautboy strawberry, pine-apple strawberry, wild strawberry, &c. are different species. On carefully comparing our plant with the descriptions of all the species, we find it will agree with none but the wild strawberry (virginiana.) Thus we arrive at the generic name *strawberry,* (fragaria,) and the specific name *wild,* (virginiana.)

At the right of the generic name, we find 92, the number of the order of Jussieu, to which it belongs; and Rosa, the abbreviation of Rosaceae, Lindley's order. See p. 29, where we find 11 associate genera (as raspberry, five-finger, &c.) We also find (at the same p. 246) at the right of Rosa, four abbreviations. These are explained on p. 31, thus: the general properties are astringent, fruit refrigerent or cooling to the feverish patient; and a specific febrifuge. If we wish to pursue its natural affinities, we find the order Rosaceae in the table at pp. 18, 19, 20, and find its reference to p. 545, where this order and its associates are minutely dissected.

LINNEAN ARTIFICIAL CLASSES.

The Linnean Artificial classes are founded upon the four following circumstances of the stamens; *number, position, relative length,* and *connexion.* The first *ten* are distinguished by the number of stamens; the *eleventh* and *twelfth* by number and position; the *thirteenth* and *fourteenth* by number and relative length; the *fifteenth, sixteenth,* and *seventeenth* by connexion, the *eighteenth, nineteenth,* and *twentieth* by position. The *last* or *twenty-first* class, being a natural one, is not distinguished by any circumstance of the stamens.

The first twelve classes are named by prefixing Greek numerals, expressive of the number of stamens, to ANDRIA; which is a Greek derivative, used metaphorically for stamens.

The thirteenth and fourteenth classes are named by prefixing the Greek numerals, expressive of the number of long stamens, to DYNAMIA; which is a Greek derivative, signifying power, importing that the longest stamens are most powerful.

The fifteenth and sixteenth classes are named by prefixing Greek numerals expressive of the number of parcels in which the stamens are united by their filaments, to the word ADELPHIA; which is a Greek derivative, used to signify brotherhood.

The seventeenth class is named by prefixing SYN, (a Greek derivative from *sun*,) signifying together, to GENESIS, a Greek derivative, signifying produced or growing up. The name is intended to signify that the anthers grow up together, or in an united state.

The eighteenth class is named by prefixing an abbreviation of GYNIA, a Greek derivative, used metaphorically to signify the pistil, to ANDRIA; as the stamen and pistil are united in this class.

The nineteenth and twentieth classes are named by perfixing Greek numerals expressive of the number of plants occupied by the stamens and pistils in order to complete a species, to ŒCIA, a Greek derivative from oikos, a house. The name is intended to signify, that the stamens and pistils inhabit the same or different tenements.

The twenty-first class is named by prefixing CRYPTO, a Greek derivative, signifying concealed, to GAMIA a Greek derivative, used metaphorically for the strewing of pollen from the anthers upon the stigmas of pistils. It is intended to signify, that the operation of strewing the fertilizing pollen upon stigmas, so manifest in lilies, poplars, Indian corn, &c., is concealed in plants of this class; though it is possible that such operations are as regularly performed in cryptogamous as in phenogamous plants.

ARTIFICIAL ORDERS.

Each class is subdivided into two or more orders. These subdivisions are founded upon the number of styles (or stigmas when styles are wanting); the covering or apparent nakedness of seeds; the relative lengths of pods; the comparison between disk and ray florets of compound flowers; and the characters of preceding classes. The orders of the class cryptogamia are distinguished by natural family characters.

The orders of the first twelve classes are distinguished by the numbr of styles: and named by prefixing Greek numerals, expressive of the number of styles to GYNIA, a Greek derivative, used metaphorically for style or stigma. The styles are numbered at their origin on the germ. Their subdivisions above the germ are not taken into view in determining the number of the order. Sometimes the style is wanting, leaving the stigma to sit down upon the germ; in such cases the stigmas are numbered in determining the number of the order.

The orders of the thirteenth and fourteenth classes are but two in each. Those in the thirteenth are named by pertixing GYMNO, a Greek derivative, signifying naked, or ANGIO, a Greek derivative, signifying bag or sack, to SPERMIA, a derivative signifying seed. In the fourteenth, they are named by using a derivative from the Latin SILIQUA, a pod, and from the diminutive of the same, SILICULA.

The orders of the fifteenth, sixteenth, eighteenth, nineteenth and twentieth classes, are distinguished by the characters of preceding classes, and assume the same names. Therefore when a plant is found in either of these five classes, we inquire which nearest preceding class it would fall into, if its particular classic character were wanting. The answer to this inquiry gives the order.

The four first orders of class 17, are distinguished by comparing the disk and ray florets. The first, second and third orders have perfect florets in the disk: the fourth has staminate florets only in the disk. The first has perfect florets in the ray, the second and fourth have pistillate, and the third has neutral. The fifth order has partial perianth calyxes to all the florets: whereas none of the other orders have any but the general calyx—the egret, when present, being a substitute for the perianth. The orders of this class are named by joining the word POLYGAMIA to an appropriate adjective. Polygamia is a Greek derivative, used metaphorically to signify numerous organs for carrying on the process of strewing the fertilizing pollen upon stigmas. The adjective ŒQUALIS is used to signify, that the organs for furnishing pollen are equalized, or duly proportioned to the stigmas to be fertilized; SUPERFLUA, that the pistillate florets in the margin or ray are superfluous, each fertile floret of the disk having stamens and pistils in due proportion; FRUSTRANEA, that the ray florets are empty or vain, having no stamens or pistils; NECESSARIA, that the ray florets are necessary to the production of seed, the disk florets being all staminate; SEGREGATA, that the florets are disjointed, or separated from each other by partial calyxes.

The orders of the twenty-first class are distinguished by natural family characters; this class embraces six natural families. The species of the five last of the families are placed at the end of the phenogamia, at page 487.

OMITTED CLASSES.

The classes of Linneus, called Dodecandria, Polyadelphia, and Polygamia, are omitted: and their respective genera are distributed among other classes. For the Dodecandria is a small class and the character variable. The Polyadelphia is exceedingly variable, and not necessary. The Polygamia is inconstant in its character, and the plants may be classed by their perfect flowers.

N. B. When a star (*) is placed before generic names at the end of an order, it is to be understood, that though some species of these genera fall here by the rules of the artificial system, yet that as no natural genus must be divided, these stragglers must be referred back to their natural genera for descriptions. They may thus be referred back by aid of the alphabetical arrangement of generic names, where the species are described.

ABBREVIATIONS FOR NEXT PAGE EXPLAINED.

Mon. monogynia, 1 style, or sessile stigma, to each flower; Dig. digynia, 2 styles or sessile stigmas to each flower; Tri. trigynia, 3: Tet. tetragynia, 4; Pen. pentagynia, 5; Hex. hexagynia, 6; Hep. heptagynia, 7; Oct. octagynia, 8; Dec. decagynia, 10; Pol. polygynia, over 10. In classes 15, 16, 18, 19, 20, preceding classes become orders by their names and characters. Here, Mon. monandria: Dia. diandria; Tri. triandria; Tet. tetrandria; Pen. pentandria; Hex, hexandria; Hep. heptandria; Oct. octandria; Dec. decandria; Pol. polyandria; Mon. monadelphia. In class 13, Gym. gymnospermia; Ang. angiospermia. In class 14, Silic. siliculosa: Siliq. siliquosa. In class 17; Æg. polygamia aequalis; Sup. polygamia superflua; Frus. polygamia frustranea; Nec. polygamia necessaria; Seg. polygamia segregata. In class 21, Fil. Filices, (ferns;) Mus. Musci, (mosses;) Hep. Hepaticae, (liverworts;) Alg. Algae, (seaweeds;) Lich. Lichens; Fun. Fungi, (mushroom, mould.)

SYNOPSIS OF THE ARTIFICIAL CLASSES.

Number of Stamens.	1. Monandria, one stamen to each flower.
	2. Diandria, 2 stamens.
	3. Triandria, 3 stamens.
	4. Tetrandria, 4 stamens.
	5. Pentandria, 5 stamens.
	6. Hexandria, 6 stamens.
	7. Heptandria, 7 stamens.
	8. Octandria, 8 stamens.
	9. Enneandria, 9 stamens.
	10. Decandria, 10 stamens.
Number and Position.	11. Icosandria, over 10 stamens, on the calyx. Generally, about 20.
	12. Polyandria, over 10 stamens, not on calyx. Generally over 20, and variable.
Number and relative Length.	13. Didynamia, 4 stamens, 2 of them longest. Flowers labiate.
	14. Tetradynamia, 6 stamens, 4 of them longest. Flowers cruciform.
Connexion of the Stamens by filaments or anthers	15. Monadelphia, filaments united in one set. The stamens present a columnar form, altogether.
	16. Diadelphia, filaments united in two sets; papilionaceous. Stamens may be in one set, if the flower is papilionaceous.
	17. Syngenesia, anthers united; flowers compound. The filaments are always 5, and separate.
Position of Stamens relative to the Pistils.	18. Gynandria, stamens on the pistil, distant from the corol. Pollen mostly glutinous; and most of the flowers contain nectaries.
	19. Monoecia, stamens in flowers separate from pistils, on the same plant. Pollen generally abundant.
	20. Dioecia, stamens in flowers separate from pistils, on separate plants. Pollen abundant. Pistillate plant generally most robust.
Invisible or Caducous.	21. Cryptogamia, stamens invisible, wanting or very caducous. This class includes six natural orders.

ORDERS OF EACH CLASS.

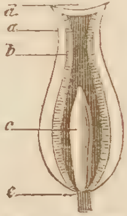
	1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	10th.	12th.	16th.
1	Mon.	Dig.	——	——	——	——	——	——	——	——	——
2	Mon.	Dig.	Tri.	——	——	——	——	——	——	——	——
3	Mon.	Dig.	Tri.	——	——	——	——	——	——	——	——
4	Mon.	Dig.	——	Tet.	——	——	——	——	——	——	——
5	Mon.	Dig.	Tri.	Tet.	Pen.	——	——	——	——	Pol.	——
6	Mon.	Dig.	Tri.	——	——	Hex.	——	——	——	Pol.	——
7	Mon.	——	——	Tet.	——	Hex.	Hep.	——	——	——	——
8	Mon.	Dig.	Tri.	Tet.	——	——	——	——	——	——	——
9	Mon.	Dig.	Tri.	——	——	——	——	——	——	——	——
10	Mon.	Dig.	Tri.	Tet.	Pen.	——	——	——	Dec.	——	——
11	Mon.	Dig.	——	——	Pen.	——	——	——	——	Pol.	——
12	Mon.	Dig.	——	——	Pen.	——	——	——	——	Pol.	——
13	Gym.	Ang.	——	——	——	——	——	——	——	——	——
14	Silic.	Siliq.	——	——	——	——	——	——	——	——	——
15	——	——	Tri.	——	Pen.	——	Hep.	——	Dec.	Pol.	——
16	——	——	——	——	——	Hex.	——	Oct.	Dec.	——	——
17	Æq.	Sup.	Frus.	Nec.	Seg.	——	——	——	——	——	——
18	Mon.	Dia.	——	——	Pen.	Hex.	——	——	Dec.	——	——
19	Mon.	Dia.	Tri.	Tet.	Pen.	Hex.	——	——	——	Pol.	Mon.
20	——	Dia.	Tri.	Tet.	Pen.	Hex.	——	Oct.	Dec.	Pol.	Mon.
21	Fil.	Mus.	Hep.	Alg.	Lich.	Fun.	——	——	——	——	——

FRUIT AND SEED, TAKEN IN CONNEXION.

The study of vegetable philosophy requires a knowledge of natural alliances. After the description of species in this book, a concise view of the natural method is given, sufficient for that purpose. It is not however intended for ascertaining the names of genera, without the concurrent aid of the Linnean method. Many botanists consider the artificial system in this respect preferable to the natural method; even if we leave out of view the vast labor of arriving at a sufficient knowledge of it. The celebrated Hooker says, "The experience of nearly one hundred years has proved to every unprejudiced mind, that no system has appeared which can be compared with that of the immortal Swede (Linneus), for the facility with which it enables any one, hitherto unpractised in botany, to arrive at a knowledge of the genus and species of a plant."

To prepare for the study of natural alliances of plants, as a necessary step towards the study of vegetable physiology, the student must have distinct views of the parts of seeds and fruit.

Fig. 1.



Beginning with the seed when mature, and yet enclosed in the fruit, we find it in a kind of tunic, or an outer and inner sack, called primine and secundine. These are not always separable. Fig. 1. *c.* points to the nucleus, *a.* to the primine, *b.* to the secundine. *e.* is the point where the coats and nucleus are united by their constituent organs. This point of union is called *chalaza.* At this point the seed grows to the placenta. The nucleus and its coats, while in the growing state, constitute the *ovule.* The ovule never has a stigma, but derives its fertilizing pollen through its placenta, by way of the stigma of its carpel (pericarp.) The pea is the ovule, the pod is its carpel, the thickened edges of the pod at their meeting is the placenta, along which the pollen is conveyed from the stigma for the use of the ovules: which pollen the stigma received from the anthers.

Fig. 6.

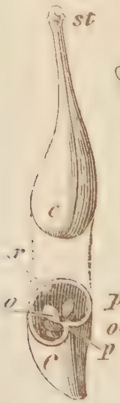


Fig. 7.

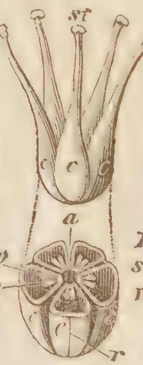
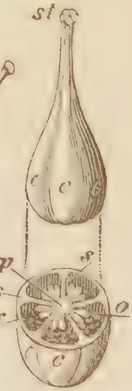


Fig. 8.



The pod, which was at first a germ or ovary, is a single carpel, as Fig. 6, with the ovules along one edge; as *o.* along the placenta *p.* But when their pod was in the bud (called its state of estivation) it was a leaf, with its edges meeting as at *p*. These edges grew together and thickened into placenta. Here granulations were formed, which became ovules, and finally seeds and their tunics. The midrib of the leaf *r*. extended upwards and became the pistil; its tip end became a moistened stigma, *st*.

The germ is often made up of a whorl of leaves; whose edges grow together, and form several distinct carpels. Fig. 7. exhibits five separate carpels. This is *apocarp* fruit. Their approximating folded edges present their separate lines of placenta, *p*. bearing their respective ovules; *o*. also exhibiting the midrib of each leaf *r*, which is elongated into the style and stigma *st*. The carpels marked *c*. exhibit their apocarpous position; *a*. shows the opening between them.

The germ is also made up of a whorl of leaves, as in the last case: but unite in one mass of fruit, as Fig. 8. Here the five lines of placenta, formed of the folded edges of the leaves, grow together, and produce single columella of placenta, *p*. This is called *syncocarp* fruit, because the carpels unite in one. The ovules surround the columella, *o*, but the sides of the leaves become septae, *s*, and thus cut the fruit into cells. These septae are truly double; but they grow so compactly, that they appear to be single. The midribs sometimes unite so closely as to form but one style and one stigma, *st*. But this single style and stigma retain so much of the separate character of their respective midribs, that they conduct the pollen to their respective series of ovules by way of their respective lines of placenta, though united in a single columella. In the apple, the five valve-like carpels, which are enveloped in a pomaceous mass, keep their styles distinct.

Fig. 3.

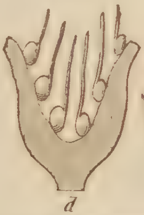
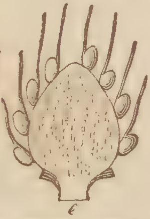


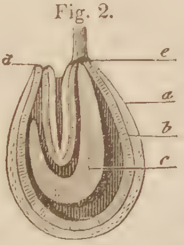
Fig. 4.



The size, proportion and distinctness among parts of carpels and ovules, are remarkably different in different kinds of plants. But their analogies are astonishingly constant, as far as they have been thoroughly investigated. The carpels of the strawberry, Fig. 4. are very small, and stand in whorls around a fleshy, conical receptacle. The rose has its carpels in a cup-form or tubular calyx, Fig. 3. These carpels are called *aikenes*, and are indehiscent. The crowfoot and virgin bower are examples.

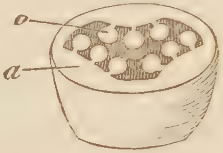
When two aikenes are attached side by side, as the sunflower, artichoke and dandelion, angelica and carrot, they are called *aikenes*, variety *cremocarp*. The same may be applied to steen-crout, borage, and hound-tongue. Indian corn, wheat, oats, barley, and many of the proper grasses, have an exceedingly thin membrane for a pericarp; so that it can scarcely be separated from the cuticle of the seed. These are called *aikenes*, variety *caryopsis*.

Fig. 2.



The ovules of peas, beans, and other of the same family—also of pinks, soap-wort, and lychnes—also of radish, mustard, cabbage, cresses, and pepper-grass, and of some other plants, curve round upon themselves, as Fig. 2. By following the order of the letters, which are similar in position to the same of Fig. 1, with a pea in hand, this form will be readily understood. The seeds or ovules of oranges, apples, &c. have their tops, or foramens, *d.* turned to the placenta. These have a kind of stem-like organ, called *raphe*, forming a ridge along the side of the seed or ovula, which serves as the stem supporting the ovule, in this inverted order, from the placenta.

Fig. 5.



Placenta is parietal, or wall-placenta, when it forms a kind of side-wall about the ovules; as the germ (ovarium) of the violet. Fig. 5. *a.* points to the thick parietal placenta—*o.* to the ovules.

These figures are sufficient to illustrate the most important parts of fruit and seed, with genuine specimens, well selected. Teachers must be furnished with more extensive physiological treatises. Gray's Elements is a convenient guide: but Lindley's Introduction to Botany is more extensive, more elegantly executed, and fourfold the expense.

ABBREVIATIONS AND CHARACTERS.

Authors' names, who first determined a Genus or Species.

Ach. Acharius—A. Aiton—B. and Bart. Barton—Bk. Beck—B. Bridel—Bw. Bigelow—Br. Robert Brown—Cates. Catesby—C. Curtis—D. Desfontaines—Dc. De Candolle—Dn. Darlington—Ds. Desveauz—E. Elliott—Ea. Eaton—Eh. Ehrhart—Fos. Foster—Gn. Gmelin—G. Gronovius—H. Hedwig—Hn. Hoffman—Hr. L'Heritier—Hk. Hooker—J. James—Ju. Jussieu—Jn. Jacquin—L. Linneus—Lb. Lambert—Lk. Lamarck—M. Muhlenberg—Mx. Michaux—Mn. Moenchausen—Mr. Murry—N. Nuttall—Pall. Pallas—P. Persoon—Ph. Pursh—Pt. Poiret—Poit. Poitean—Pb. Palisot de Beauvois—R. Rafinesque—Retz. Retezius—Rs. Roemer and Shultes—Rd. Richard—S. Smith—Scop. Scopoli—Sl. Sprengel—Sr. Screber—Sy. Salisbury—Sw. Swartz—Sh. Schkuhr—Sz. Schwintz—Sp. Sibshorp—T. Torrey—Tt. Tournefort—Tr. Turton—V. Ventenant—Wh. Wahlenburg—W. Willdenow—Wr. Walter—Wm. Wangenheim—T. & G. Torrey and Gray.

TIME OF FLOWERING, DURATION, COLOR, AND AVERAGE HEIGHT.

Time of Flowering.

Ap. April—M. May—J. June—Ju. July—Au. August—S. September—Oc. October.

Duration of Plants.

☉ annual—♂ biennial—♃ perennial—♄ woody.

Color of Corols.

r. red—p. purple—y. yellow—w. white—b. blue—blk. black—g. green.

Height of Plants.

A figure at the end of a specific description with i. signifies its most common height in inches—with f. in feet.

LOCATION OF SPECIES.

Species standing next to the generic name, grow North of the State of Virginia.

S. at the end of a specific description indicates that it grows South of the North line of Virginia, as well as North.

W. (capital) within the parenthesis after a species, indicates, that it grows West of the Allegany range and its continuation through Cayuga Lake, &c.—also East of the West line of Missouri and Arkansas.*

A. (capital) within said parenthesis, indicates that it is Alpine, or that it prefers mountainous districtt.

L. (capital) within said parenthesis indicates, (Littoribus) that it prefers the sea-shore.

O. (capital) within said parenthesis (Omnibus locis) that it is throughout the Northern and Southern States.

CAPITALS SET AT THE END OF SPECIFIC DESCRIPTIONS, INDICATING PARTICULAR LOCALITIES.

B. Boston, Mass. Bigelow.
C. Connecticut, particularly N. Haven. Ives, Tully. Eaton.
D. Detroit and N. W. Lakes. Cooly, Houghton, James.
F. West Chester Co., N. Y., particularly North Salem, Fairfield Co., Conn. Dr. Mead.
H. Harrisburgh, &c. Allegany range in Vir. and Penn. Aikin.
K. Kentucky, particularly Lexington. H. H. Eaton, Short, Peter.
La. Louisiana.
M. Maryland, particularly Frederick. Aikin.
Mch. Michigan.
N. Northampton, Amherst, Deerfield, Mass. Hitchcock, Cooley
O. Ontario Co., particularly Gorham, Ac. Aikin.

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* This limit is authorized by Drs. Short, Peter, Riddell, and Lock.

P. Philadelphia and Chester. Darlington and Barton.
S—C. South Carolina.
T. Troy, N. Y. The Eatons, Aikin, Hall, Wright.
V. Rutland Co., Vt., and Washington county, N. Y. Eaton, Stevenson, Fitch.
W. Williamstown, Mass. Dewey, Eaton and Emmons.

Arctic, Rocky Mt., and Oregon Species.

A. Arctic, growing near or within the Arctic circle.

R. On the Rocky Mt. or west of it: or between the Mt. and the States of Missouri and Arkansas. These distant localities will not embarrass the student; because a solitary R. or A. will, at first glance, indicate, that such species are not to be expected elsewhere.

Cal. California.

Remark. The districts about our N.W. Lakes, and about the S. W. region of N. America, have been in a great measure deficient in recorded localities of plants. The perilous and most disinterested labours of Nuttall, in California; and the botanical surveys of Dr. Houghton, Dr. Wright, and his diligent assistant Mr. G. Bull, have supplied these deficiencies.

Numerous localities, and more numerous promises, have been received, in answer to a circular requesting such favors. But the slow progress common with publishers of such works, seems to have induced scientific friends to expect a delay of a year or two in the present case. After tendering them sincere thanks for their kind feelings, it is necessary to say, that the promptness and punctuality of the publisher and proprietor of this edition, have defeated their good intentions, in most cases.

Localities given may appear to be unnecessarily minute and particular in some districts, and unpardonably deficient in others. To equalize this matter is, surely, exceedingly desirable; and great improvements in this are made yearly. Students are requested to adopt the five following rules, both for their own convenience, and for aiding the progress of the science. 1. Look for plants, whose localities are given, in, or near the same latitude. 2. Near the same degree of elevation above tide water level. 3. On the same side of great mountain ranges; as the east side, or west side of Allegany and Catskill ranges, continued through Cayuga lake into Canada. 4. Near the sea shore, though in very different degrees of latitude. 5. At great distances down the course of rivers below known localities, through a belt of many miles, on each side of such river.

But one method can ever make localities of plants, through our vast territory, even tolerably full. That is the method proposed to Prof. Ives of Yale College, and myself, in the summer of 1816, by the amiable and lamented Dr. McBride; the particular scientific friend of the celebrated Elliott, of Charleston, S. C. Natural History Societies were to devote a secure place to the preservation of manuscript catalogues of all collecting botanists. These catalogues were to be accessible to all, who compile general or local floras. A. E.

LINDLEY'S NATURAL ORDERS,

[ARRANGED ALPHABETICALLY.]

First column contains abbreviations of Orders. Second column present the numbers of Jussieu's Natural Orders, which succeed this alphabetical list; by which these may be found, and their respective Genera. Third, the names of Lindley's Orders, and their properties abbreviated. Fourth, the pages where each Order may be found, according to Lindley's arrangement of 1835.

Aca.	39	Acanthacae. emet. ton—.	550
Ace.	66	Acerineae. sug. diu. cab. Æs. b. ast. feb.	543
Ali.	13	Alismacea. sec-sti. amy. acr.	553
Ama.	30	Amarantaceae. cata. r. ton—.	448
Amarr.	17	Amarryllideae. stim. poi—. some poi-odo.	552
Amb.	55	Ambrosiaceae. ton. eme—.	549
Amy.	92	Amygdalaceae. feb. prus-acid. ast. f. edi. b. ton.	545
Amyr.	94	Amyrideae. r. eme. diu. h. b. frag. res. gum. elat.	546
Ana.	94	Anacardiaceae. f. h. poi. ton. tan. res. varnish.	546
Ann.	76	Annonaceae. f. aro. b. bit-ton.	541
Ant.	55	Anthemideae. h. acr. f. res. sto- bit-ton. *ase. cac.*	549
Apo.	47	Apocyneae. exp. dia. ton. r. bit. em. milk poi.	550
Ara.	59	Araliaceae. r. res-ton. pec. exp. heal. *cac. haem.*	541
Ari.	33	Aristolochiae. ath. nau-bit. r. ton+. con. sto. stim.	548
Aro.	7	Aroideae. acr. poi. some aro. stom.	552
Art.	98	Artocarpeae, or Moreae. edi. some poi.	546
Asc.	47	Asclepiadeae. exp. dia. ton. *pleu. pneu.* milk poi.	551
Asp.	16	Asphodeleae. ton. exp. stim. *ast.* squill and onion	553
Ast.	55	Astereae. ton. sec-sti. dia. r. edi. dem. ton. chamomile	549
Aur.	70	Aurantiaceae. f. cool. sto. ref. feb. frag. acid.	544
Bal.	73	Balsameae. cath. diu.	545
Beg.	28	Begoniaceae. eme—. ast—. ton—.	550
Ber.	78	Berberideae. b. ast. r. ton+. dye. f. ref. gel.	541
Bet.	99	Betulineae. ast. sto. feb.	546
Big.	40	Bignoniaceae. dem. det—.	550
Bor.	43	Boragineae. ton. vul. r. dem. dye.	551
Bro.	15	Bromeliaceae. edi. ref. sug. aro. pine apple.	552
Cac.	85	Cacteae. cool. emol. cata. acid—.	542
Cal.	88	Callitrichinae. emo—.	547
Caly.	92	Calycantheae. f. aro. ton.	546
Cam.	52	Campanulaceae. ton—.	549
Cap.	64	Capparideae. asc. sti. aper.	542
Capr.	58	Caprifoliaceae. r. eme—. h. lax—. some ton. feb.	549
Car.	54	Carduaceae. sec-sti. ton. h. if nau. cath. r. eme.	549
Car.	82	Caryophylleae.* odo. dem. asc.	544
Ced.	71	Cedreleae feb. ton. cab. stim.	544

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* This order includes Alcinaceae and Silenaceae.

Cel.	95	Celastrineae. ton-cath. det. pial.	544
Cer.	88	Ceratophylleae. emo—. cata—.	546
Che.	29	Chenopodiaceae. nut. lax. asc. beet sug.	548
Chr.	92	Chrysobalaneae. ton—. dem. f. edi.	549
Cic.	57	Cichoraceae, sal. asc. ase. ano.	545
Cir.	88	Circaæa.	541
Cin.	57	Cinchoneae. ton. ast. feb+.	549
Cin.	54	Cinerocephalae. sec. stim. r. eme.	549
Cis.	80	Cistineae. stim. ano. *cat.*	543
Com.	13	Commelineae. ton—.	553
Con.	100	Conifereae. res. pec. b. lax. *cou. con.*	547 551
Com.	44	Convolvulaceae. r. cath. edi. jalap. h. cata.	549
Cag.	55	Corymbeferae. sec-stim. r. eme.	549
Cra.	83	Crasulaceae. h. muc. lax. cool to *tum*—. det.	546
Cru.	63	Cruciferae. asc. sal. lax. s. con. nut. pun. sti.	542
Cuc.	97	Cucurbitaceae. f. ref. lax. h. cath. em.	542
Cup.	99	Cupulifereae. b. tan. ton. ast. f. nut. amy. tim.	546
Cyc.	100	Cycadeae. f. edi. pith. amy. sago.	551
Cyp.	9	Cyperaceae. fod. ton—.	553
Dat.	98	Datisceae. ton. det. bit.	547
Dio.	12	Dioscoreae. ton. r. amy. edi. yam.	552
Dip.	56	Dipsaceae. ton. teazle of fullers.	550
Dro.	68	Droseraceae. ton—.	542
Ebe.	49	Ebenaceae. f. edi. ton. b. ast+. feb. w. cab.	549
Elae.	24	Elaeagneae. ton.	557
Ele.	86	Elatineae. dem—.	543
Emp.	96	Empeterea. ton—. dem—. acr—.	546
Eup.	55	Eupatorineae. sec-stim+. eme. feb. *cold. fev.*	549
Euph.	96	Euphorbiaceae. r. ast. deob. some ole. aro. em. castor oil.	544
Ere.	51	Ericeae. bit-ton. sed. aro. e-o. sto.	548
Fic.	87	Ficoideae. f. edi. nut+. lax. b. ton—.	542
Flu.	7	Fluviales. dem. applied to tumors	547 552
Fum.	93	Fumariaceae. r. acr. bit. dia. aper.	540
Gal.	83	Gallacineae. ast. ton—.	
Gen.	46	Gentianeae. r. bit. ton+.	550
Ger.	73	Geraniaceae. aro. ton. ast.	545
Gra.	10	Gramineae. ton. far. fod.	553
Gro.	85	Grosseulariae. ref. feb. *dysp.*	541
Gut.	69	Guttiferale. ton.	
Hae.	18	Haemodoraceae. ton—.	
Hal.	88	Halorageae. ape. ton—.	541
Ham.	78	Hamamelaceae. ton—. some feb.	542
Heli.	55	Heliantheae. sole+. sto. ton.	549
Helio.	43	Heleotropieae. ton. test.	551
Hier.	53	Hieraceae. sec-sti.	549
Hip.	66	Hippocastaneae. ton—. lax—.	543
Hydr.	88	Hydrocharideae. emol.	552
Hydro.	22	Hydrocharides. ton—.	552
Hydr.	44	Hydroleaceae. r. epis. bit-ton.	549
Hydrop.	43	Hydrophylleae. asp. ton—.	551
Hyp.	68	Hypericineae. h. ast—. cath. feb—.	543
Hypo.	17	Hypoxideae. ton—.	552
Ili.	95	Ilicineae.* b. ton—. eme. ast. holly, cab.	549
Ill.	30	Illecebreae. ast—.	544
Inu.	55	Inulae. r. exp. ton.	546
Irid.	18	Irideae. g-r. acr. cat. ton. aro. dia. *dysp.*	552

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* This is also Aquifoliaceae.

Jas.	34	Jasmineae. ton. sto.	551
Jug.	94	Juglandeae. b. cath. eme. f. ole. edi.	546
Jun.	7	Juucagineaa. ton—. fod—.	553
June.	13	Junceae. fod—.	554
Lab.	72	Labiatae. sto. car. ton. dia. bev. e-o. cool. *fla. col.*	550
Lau.	27	Laurineae. aro. sto. b. & r. deob. asp. exp.	547
Leg.	93	Legumenoseae.* f. nut. g-h. asc.	545
Len.	35	Lentibulariae. ton—.	550
Lidi.	14	Liliaceae. dia—. emo.	553
Lin.	82	Lineae. s. muc. dem-cata. b. flax.	543
Loas.	88	Laosaceae. emo. stinging.	
Lob.	52	Lobeliaceae. acr-nar. eme+. exp. dia.	549
Lor.	58	Lorantheae. ton—. ast.	542
Mag.	75	Magnoliaceae. aro-bit. *rhe.*	541
Malva.	74	Malvaceae. emo. muc. f. nut.	544
Mar.	20	Marantaceae. amy.	552
Mel.	13	Melanthaceae. r. h. bit-ton. acr. ath. *itch.*	553
Mela.	90	Melastomaceae ton. ast.	542
Meli.	71	Meliaceae. feb—. ton. stim.	544
Men.	77	Menispermea. ton. dia. *dysp.* s. nar.	448
Mus.	19	Musaceae. f. edi. amy. banana.	
Myo.	40	Myoporineae. (See Bignoniae.)	550
Myr.	99	Myriceae. r. ast. f. producing wax. aro. ton.	546
Myrt.	89	Myrtaceae. f. aro. ton. l. odo. b. ast.	542
Nel.	62	Nelumboneae. r. amy. nut.	541
Nyc.	32	Nyctagineae. r. cath. eme—.	548
Nym.	62	Nymphaceae. r. nar. sed. ast—.	540
Olea.	34	Oleaciae. f. ole. emo. lax. ton—. o. edi.	551
Ona.	88	Onagareae. ton—. ast—. emo.	541
Orch.	21	Orchideae. r. amy. vis. aro. (salep) war.	554
Orob.	36	Orobancheae. bit. ast.	550
Oxa.	72	Oxalidea. aci. ref. ace.	545
Pam.	11	Palmae. nut. ole. vin. amy. sago. cocoa.	553
Pap.	62	Papaveraceae. e. of f. ano+. some r. feb+. poi. nar.	540
Papay.	97	Pa—payaceae. ver. l. sapo. f. edi.	543
Pass.	26	Passifloreae. r. eme. pec. omam.	553
Ped.	40	Pedalineae. emo—. dem.	550
Phil.	89	Philadelpheae. f. h. ton. act.	542
Phy.	29	Phytolacceae. eme. nar.	548
Piper.	98	Piperaceae. con. acrid. war. sto. aro. *flat.*	547
Pis.	7	Pistiaceae. acr—. *tum.*	553
Pla.	31	Plantagineae. lax. cool. dem. *tum.*	550
Plan.	99	Plantaneae. ton—. bit. ornament.	547
Plu.	33	Plumbagineae. r. asc+. *cyn.* some ton. r. acr-cau.	550
Pod.	62	Podophylleae; r. cath+.	540
Pol.	45	Polemoniaceae. ton—. h. nar—.	549
Poly.	93	Polygaleae. r. sial. sud. exp. *ast. rheu.*	543
Poly.	28	Polygoneae. l. acr. amy. nut. lax. rubarb. cath.	548
Pom.	92	Pomaceae. r. & h. ton. f. ref. lax.	544
Pont.	17	Pontedereae. ton—.	553
Por.	86	Portulaceae. muc. nut-lax.	544
Prim.	35	Primulaceae. sop. ast. sed.	548
Pyr.	57	Pyrolaceae. h. bit-ton. diu. healing.	548
Ran.	61	Ranunculaceae. g-r. poi+. h. acr. epis. ver. some dra-eme.	540
Res.	14	Resedaceae. asc. ape.	542
Rha.	95	Rhamneae. cath. r. hea. f. pec. bev. some juri-paste.	544

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* This Order includes Mimoseae. Gum arabic, catechu.

Rhiz.	91	Rhizophorae. ast—. bit—.	542
Rho.	67	Rhodoraceae. aro—. deob. (See Ericea.)	548
Ros.	92	Rosaceae. f. conserves. ref. lax. r. ton. b. aro. ast.	545
Rut.	81	Rutaceae. acr. stim. l. epis. bit. ath.	544
Salica.	91	Salicariae. ast. acr.	544
Sali.	99	Salicineae. ast. ton—. dia. cath—. b. feb.	541
Sang.	92	Sanguisorbeae. ton. ast. cool-bev. ast.	545
Sant.	25	Santalaceae. sed. ton.	545
Sapi.	65	Sapindaceae. f. det. r. ape. l. poi.	543
Sapo.	78	Sapoteae. b. ast. s. diu. f. ole. edi. s. feb.	543
Sar.	62	Sarracenieae. cath—. eme—.	941
Sau.	98	Saurureae. cath—. ast.	547
Sax.	84	Saxifrageae. ast—. ton—	546
Scl.	30	Sclerantaceae. ton—.	548
Scr.	37	Scrophularineae. cath. eme. ast. abs. *dro*. pec.	550
Smi.	12	Smilaceae. lax. dia. nar—. amy.	552
Sol.	38	Solaneae. nar+. f. & l. poi. r. amy. nut.	551
Spi.	46	Spigeliaceae. g-h. ath+. cath. ver+.	550
Sta.	95	Staphylaceae. cath. dem—.	544
Ste.	57	Stellatae. ton. diu. dye. ast.	549
Sty.	71	Styraceae. aro. sti. ast. res. benzoin.	549
Ter.	70	Ternstromiaceae. bev. ton. nar. aro. sto.	543
Thy.	25	Thymeleae. b. caus—.	547
Til.	79	Tiliaceae. muc. emo. cata. dia. *con.* lax.	544
Tro.	73	Tropaeoleae. asc. far. con.	545
Tur.	88	Turneraceae. emo. cata—.	543
Typ.	8	Typhaceae. l. used in arts. pollen ast.	552
Ulm.	99	Ulmaceae. ton, some muc. cata. lax. some bit-ast.	547
Umb.	60	Umbelliferae. sto. if odo. poi. if nau. r. edi. if not nau.	541
Urt.	98	Urticeae. ton. b. stinging. rubifac. hop. res. sto.	546
Vac.	50 51	Vaccineae. f. res. lax. ref. gal.	548
Val.	56	Valereaneae. r. ner+. sed. *pal.* h. bit-ton. ver.	550
Ver.	41	Verbenaceae. h. dis. cata. aro. r. bit.	550
Vio.	80	Violaceae. text. tinc. of f. cath—.	542
Vit.	72	Vitis. f. ref. vin. sug. ase.	541
Win.	57	Wintereae. b. & h. aro. spi. sto. b. stim.	541
Xan.	94	Xanthoxyleae. aro. pun. stim+. sto. *rheu.*	545
Xyr.	13	Xyrideae. fod—.	553
Zyg.	81	Zygophylleae. ton. war. sud. guaiacum.	545

LINDLEY'S NATURAL ORDERS,

[ARRANGED UNDER JUSSIEU'S CENTIGRADE.]

Note. The five lower orders of Cryptogamia are omitted here; but are introduced at page 487.

5. Filices (polypods, breaks, &c.) Genera 28—described at pages 118 to 120. *Secernant stimulants.*
6. Naiades. Genus 1. (Chara)—described at page 108. *Nauseous and cathartic.*

SECOND GRAND DIVISION.

MONOCOTYLEDONOUS PLANTS. CLASS FIRST.

Stamens below the pistil. Flowers sub-petaloid.

7. AROIDEAE.

A. Aroideae.
Prop. acrid.
Acorus, L.
Orontium, L.
Calla, L.
Arum, L.
Calladium, Vent.
Rensselaeria, Beck.
Ictodes, Bw.
B. Juncagineae.
Tonic and cathartic,
Triglochin, L.
Scheuchzeria, L.
C. Fluviales.
Feeble tonics.
Podostemum, Mx.
Najas, L.
Potamogeton, L.
Zostera, L.
Ruppia, L.
Caulinia, Willd.
Zanichellia, L.
D. Pistiaceae.
Stimulant, acrid.
Pistia, L.
Lemna, L.

8. TYPHAE.

A. Typhaceae.
Prop. Typha, L.
Sparganium, L.

9. CYPEROIDEAE.

A. Cyperaceae.
Farinaceous, nutritious, sugary.
1. *True Cyperaceae.*
Cyperus, L.
Kyllinga, Mx.
Scirpus.
Dulichium, Pers.
Mariscus, Vahl.
2. *Scirpeae.*
Mapania, L.
Fimbristylis, Vahl.
Eriophorum, L.
Dichromena, Michx.
Fuirena, Lin fil.
Schoenus, L.
Rhynchospora, Vahl.
Vaginaria, Rich.
3. *Sclerae.*
Scleria, L.
4. *Cariciniae.*
Carex, L.

10. GRAMINEAE.

A. Gramineae.
Cattle fodder, farinaceous food, tonic.
1. *Agrostideae*, (Field-grass-like.)
Agrostis, L.
Cinna, L.
Phleum, L.
Polypogon, Desf.
Muhlenbergia, Shereb.
Brachyelytrum.
Phalaris, L.
Trichochloa, Desf.
Alopecurus, L.
Crypsis, Lamk.
2. *Paniceae.* (Panic-grass-like.)
Milium, L.
Digitaria, Hall.
Paspalum, L.
Orthopogon, R. Br.
Tripsacum, L.
Piptatherum, P. de Beauv.
Pennisetum, Nutt.
Aulaxanthus, Ell.
Beckmannia, Jacq.
Panicum, L.
Ceresia, Pers.
Manisuris, L.
Cenchrus, L.
3. *Avenaceae.* Oats-like.
Stipa, L.
Eriocoma, Nutt.
Aira, L.
Trisetum, Pers.
Uralepsis, Nutt.
Danthonia, Dc.
Aristida, L.
Anthoxanthum, L.
Miegia, Pers.
Holcus, L.
Arundo, L.
Calamagrostis, Roth.
Pleuraphis, Tor.
Avena, L.
Arrhenatherum.
Hierochloa, Gmel.
Psamma, P. d. B.
4. *Festucaceæ.* (Fesc-grass-like.)
Festuca, L.
Diarrhena, Mx.
Poa, L.
Coix.
Trichodium.
Vilfa.

Sesleria, Scop.
Briza, L.
Ceratochloa, P. de B.
Koeleria, Pers.
Windsoria, Nutt.
Melica, L.
Dactylis, L.
Bromus, L.
Glyceria, R. Brown.
Uniola, L.
5. *Chlorideae.* (Hair-beard-like.)
Chloris, Swtz.
Atheropogon, Muhl.
Monocera, Ell.
Oxydena, Nut.
Cynodon, Rich.
Eleusine, Gaert.
6. *Hordeaceae.* (Barley-like.)
Hordeum, L.
Triticum, L.
Ægilops, L.
Limnetis, Richard.
Secale, L.
Lolium, L.
Rottbollia, L.
Elymus, L.
Lepturus, R. Brown.
Nardus, L.
7. *Saccharineae.* (Cane-like.)
Saccharum, L.
Erianthus, Michx.
Andropogon, L.
Sorghum, Pers.
Gymnopogon, L. de B.
8. *Oryzeae.* (Rice-like.)
Leersia, L.
Zizania, L.
Oryzopsis, Michx.
Oryza, Willd.
Hydrochloa, P. de B. non Hort. Brit.
Zea, L.
9. *Bambusaceae.* (Reed-like.)

CLASS SECOND.

Stamens surrounding the pistil, above its base.
Flowers petioled.

11. PALMÆ.

A. Palmæ.
Food, oil, wine and tonic remedies.
Chamaerops, L.
Sabal, Ad.

12. ASPARAGI.

A. Smilaceæ.
Diuretic and demulcent.
Smilax, L.
Streptopus, Michx.
Uvularia, L.
Asparagus, L.
Gryoma, Nutt.
Convallaria, L.
Trillium, L.
B. Dioscoreae.
Nutritious, tonic.
Dioscorea, L.

13. JUNCI.

A. Alismaceae.
Stimulating and acrid.
Sagittaria, L.
Alisma, L.
B. Cmmelineae.
Feeble tonics.
Commelina, L.
Tradescantia, L.
C. Xyrideae.
Antiscorbutic.
Xyris, L.
Tripterella, Mx.
Apteria, N.
D. Junceae.
Weak tonics.
Juncus, L.
Narthecium, Mohr.
Pleea, Michx.
Luzula, Dc.
Eriocaulon.
E. Melanthaceae.
Poisonous, antiscorbutic.
Melanthium, L.
Helonias, L.
Zigadenus, Mx.
Tofielda, Huds.
Nolina, Mx.
Xerophyllum, Mx.
Varatrum, L.

14. LILIACEAE.

A. Lillaceae.
Diuertics, emollients.
Tulipa, Willd.
Yucca, L,
Polyanthes.
Lilium, L.
Hemerocallis.
Calochortus, Pursh.
Frittillaria, L.
Erythronium, L.

15. BROMELIA.

A. Bromeliaceae.
Refrigerants, cathartics.
Tillandsia, L.
Agave, L.

16. ASPHODELI.

(hyacinth-like.)
A. Asphodeleae.
Bitter stimulants; some are expectorants and absorbents.
Goodyera, R. Br.
Neottia, Sz.
Scilli, L.
Allium, L.
Hyacinthus, L.
Ornithogalum, L.
Aletris, L.
Brodiaea, Sm.
Phalangium.
Asphodelus, L.

17. NARCISSI.

Marcissus.
A. Hypoxideae.
Feeble tonics.
Hypoxis, L.
B. Amaryllideae.
Stimulants, and some poisonous.
Amaryllis, L.
Galanthus, Willd.
Pancratium, L.
Crinum, L.
C. Pontedereae.
Weak tonics.
Pontederia, L.
Syena, Willd.
Heteranthera, Beav.
Schollera, Schrb.

18. IRIDES.

A. Haemodoraceae.
Tonic.
Dilatris, Ker.
Conostylis, R. Brown.
B. Irideae.
Slightly stimulating, some are poisonous.
Iris, L.
Crocus, Ker.
Sysirinchium, L.
Ixia, L.
Tigridia.

CLASS THIRD.

Stamens on the pistil or style.
Flowers petaloid.

19. MUSAE.

A. Musaceae.
Tonic.

20. CANNAE.

A. Marantaceae.
Nutritious, tonic, demulcent.
Thalia' L.
Canna, L.

21. ORCHIDEAE.

A. Orchideae.
Nutritious, emollient.
1. *Neottieae.*

2. *Arethuseae.*
Pogonia, R. Br.
Aplectrum, Nutt.
Triphora, Nutt.
Listeria, R. Br.
Corallorhiza, R. Br.
Arethusa, L.
3. *Ophrydeae.*
Orchis, L.
Habenaria, R. Br.
Tippularia, Nutt.
Cranichis.
Thalia.
Cymbekium.
Platanthera.
4. *Epidendreae.*
Epidendrum, L.
Bletia, R. & P.
5. *Malaxideae.*
Malaxis, Swartz.
Microstylis, Nutt.
Calypso, Salisb.
6. *Cypripedeae.*
Cypripedium, L.

22. HYDROCHARIDES.
A. Hydrocharides.
Weak tonics somewhat nutritious.
Hydrocharis, L.
Valisneria, L.
Serpicula, Muhl.

THIRD GRAND DIVISION.

DICOTELODONOUS PLANTS. *Section first. Flowers apetalous.*

CLASS FOURTH.

Stamens on the pistils.
23. ARISTOLOCHIAE.
A. Aristolochiae.
Tonic and stimulating.
Aristolochia, L.
Asarum, L.

CLASS FIFTH.

Stamens around the germ above the base.
24. ELÆAGNI.
A. Elaeagneae.
Tonic.
Eleagnus, L.
Hippophae.
Nyssa.

25. THYMELEAE.
A. Santalaceae.
Refrigerent, sedative.
Nyssa, L.
Hamiltonia, Muhl.
Thesium.

B. THYMELEAE.
Caustic, cathartic.
Dirca, L.
Daphne.

26. PROTEAE.
A. Proteae.
Weak tonics.

27. LAURI.
A. Laurineae.
Aromatic, stomachic, warming.
Laurus, L.

28. POLYGONEAE.
A. Polygoneae.
Cathartic, cooling.
Brunichia, Gaert.
Calligonum.
Polygonum, L.
Rheum.
Rumex, L.
Oxyria, Hill.
Eriogonum, Michx.
B. Begoniaceae.
Bitter astringent.

29. ATRIPLICES.
A. Chenopodeae.
Nutritious, tonic.
Chenopodium, L.
Camphorasma.
Salicornia, L.
Blitum, L.
Kochia, Schr.
Atriplex, L.
Corispermum, L.
Beta.
Diotis, L.
Acnida, L.
Salsola, L.
Spinacea.
Polycnemum, L.
B. Phytolacceae.
Deobstruent, emetic.
Phytolacca, L.
Rivinia, L.

CLASS SIXTH.

Stamens below the germ.
30. AMARANTI.
A. Illecebreae.
Astringent.
Queria.
Siphonychia.
Stipulicida.
Polycarpon, L.
Soeflingia.
B. Amarantaceae.
Dieuretic, nutritious.
Amaranthus, L.
Achyranthes, L.
Anychia.
Paronychia.
Oplotheca, Nutt.
Gomphrena.
Iresine, L.
Celosia.
Philoxerus.
C. Scleranthеae.
Feeble tonic.
Scleranthus, L.

31. PLANTAGINEAE.
A. Plantagineae.
Emollient. astringent.
Plantago, L.

32. NYCTAGINES.
A. Nyctagineae.
Cathartic.
Boerhaavia, L.
Allionia, L.
Calymenia.
Mirabilis, Conradia, N.

33. PLUMBAGINES.
A. Plumbagineae.
Cathartic, tonic.
Statice, L.

CLASS SEVENTH.

Corols below the germ.
34. JASMINEAE.
A. Jasmineae.
Fragrant stomachics, tonics.
Jasminum.
B. Oleaceae.
Nutritious, tonic, febrifuge.
Olea, L.
Centaurella.
Syringa, L.
Ligustrum, L.
Fraxinus, L.
Chionanthus, L.
Ornus, Pers.

35. LYSIMACHIAE.
A. Primulaceae.
Some acrid, mostly feebly tonic.
Primula, L.

Trientalis, L.
Lysimachia, L.
Centunculus, L.
Androsace, L.
Hottonia, L.
Anagallis, L.
Samolus, L.
Dodecatheon, L.
Glaux, L.
Micranthemum, Michx.

B. Lentibulariae.
Scarcely tonic.
Pinguicula, L.
Utricularia, L.

36. PEDICULARES.

A. Orobancheae.
Astringent.
Orobanche, L.
Epiphegus, Nutt.

B. Rhinanthaceae.
Aromatic, tonic.
Rhinanthus, L.
Bartsia, L.
Melampyrum, L.
Pedicularis, L.
Euphrasia.
Justicia.
Castilleja, Mutis.
Orthocarpus, Nutt.
Euchroma, Nutt.

37. SCROPHULARIAE.

A. Scrophularineae.
Acrid, poisonous, anti-scorbutic.
1. *Veroniceae.*
Veronica, L.
Leptandra, Nutt.
2. *Erinaceae.*
Buchnera, L.
3. *Scrophularinae.*
Scrophularia, L.
Mimulus, L.
Schwalbea, L.
Herpestris, Gaert.
Limosella, L.
Seymeria, Pursh.
Antirrihinum, L.
Gratiola, L.
Chelone, L.
Hemianthus, Nutt.
Capraria, L.
Digitalis, L.
Lindernia, L.
Pentstemon, Willd.
Collinsia, Nutt.
Gerardia, L.
Chionanthus.
Gymnandra.

38. SOLANEAE.

A. Solaneae.
Poisonous fruit, not herbage or root.
1. *Solaneae* (Potatoe-like.)
Solanum, L.
Hyoscyamus.
Androcera.
Physalis, L.
Datura, L.
Capsicum, L.
Nicotiana, L.
Lycium, L.
2. *Verbasceae.* (Mullein-like.)
Verbascum, L.
Atropa.

39. ACANTHI.

A. Acanthacea.
Emollient, aromatic, ionic.
Justicia, L.
Ruellia, L.
Elytraria, Michx.

40. BIGNONIAE.

A. Pedalineae.
Emollient.
Sesamum.
Martynia, L.

B. Bignoniacea.
Nutritious and tonic.
Bignonia, L.
Catalpa, Juss.

C. Myoporineae.
Astringent.
Avicennia, L.

41. VITICES.

A. Verbenaceae.
Diuretic and moderately tonic.
Verbena, L.
Lantana, L.
Callicarpa, L.
Zapania, Link.

42. LABIATEAE.

A. Labiateae.
Stomachic, tonic.
Boltania.
Lavandula.
Rosmarinus.
1. *Menthoidea.* (Mint-like.)
Lycopus, L.
Isanthus, Michx.
Mentha, L.
Tullia.
2. *Satureineae.* (Savory-like.)
Satureja.
Thymus, L.
Hyssopus.
Rosmarinus.
Phryma.
Pycnanthemum, Mchx.
Origanum, L.
3. *Ajugoideae.* (Horsebalm-like.)
Ajuga.
Molucella.
Teucrium, L.
Collinsonia, L.
Trichostema, L.
Ceranthera, Elliot.
4. *Monardeae.*
Monarda, L.
Cunila, L.
Synandra, Nutt.
5. *Nepeteae.* (Catmint-like.)
Leucas, R. Brown.
Lamium, L.
Nepeta, L,
Macbridea, Elliot.
Galeopsis, L.
Ocymum.
Dracocephalum, L. Benth.
Glechoma, L.
Melissa, L.
Leonurus, L.
Stachys, L.
Marrubium, L.
Hedeoma, Pers.
Calamintha, Ph.
Scutellaria, L.
Clinopodium, L.
Salvia, L.
Prunella, L.
6. *Ocymoideae.*
Hyptis, Jacq.

43. BORAGINEAE.

A. Boragineae.
Emollient and astringent.
Borago.
Lithospermum, L.
Symphytum, L.
Myosotis, L.
Pulmonaria, L.
Batschia, Gmel.
Echium, L.
Rochelia, L.
Anchusa.
Onosmodium, Mx.
Lycopsis, L.
Cynoglossum, L.

B. Heliotropiceae.
Astringent.
Heliotropium, L.

C. Hydrophylleae.
Emollient, feebly tonic.
Hydrophyllum, L.
Phacelia, Mx.
Nemophila, N.
Ellisia, L.

44. CONVOLVULI.

A. Convolvulaceae.
Roots mostly cathartic.
Convolvulus, L.

Evolvulus, L.
Ipomea.
Dichondra, Forst.
Cuscuta, L.

B. Hydroleaceae.
Tonic.
Hydrolea, L.
Diapensia, L.

45. POLEMONIA.

A. Polemoniaceae.
Scarcely tonic.
Polemonium, L.
Collomia, N.
Phlox, L.
Cantua.
Acerates.

46. GENTIANEAE.

A. Gentianeae.
Very tonic.
Gentiana, L.
Sabbatia, Adans.
Ophiorhiza.
Lisianthus, P. Br.
Obolaria, L.
Swertia, L.
Exacum, L.
Houstonia, L.
Villarsia, Vent.
Frasera, Walt.
Bartonia, Ph.
Polypremum, L.
Menyanthes, L.

B. Spigeliaceae.
Vermifugo, cathartic.
Spigelia, L.

47. APOCYNEAE.

A. Asclepiadeae.
Acrid, stimulating, emetic, sudorific.
Podostigma.
Gonolobus, Mx.
Enslenia, N.
Asclepias, L.
Avicennia.
Cynanchum, L.
Vinca.
Periploca, L.
Hoya.

B. Apocyneae.
Very acrid, febrifuge, emetic, sudorific.
Apocynum, L.
Gelseminum, Ju.
Amsonia, Walt.
Echites, L.

28. SAPOTAE.

A. Sapoteæ.
Food, diuretic, tonic.
Bumelia, Swtz.

CLASS EIGHTH.

Corols surrounding the germ, above the base.

49. GUAICANAE.

A. Ebenaceae.
Nutritious, tonic.
Diospyros.

50. RHODENDRA, and 51. ERICAE.

A. Ericeae.
Diuretic, astringent.
1. *Ericeae verae.* (Heath-like, or wintergreen-like.)
Erica.
Pyrrocoma.
Laussurea.
Arbutus, L.
Mylocarium, W.
Elliottia, Muhl.
Gaultheria, L.
Clethra, L.
Menziesia, L.
Andromeda, L.
Cyrilla, L.
Pickeringia, N.
2. *Rhodoraceae.* (Honeysuckle-like.)
Kalmia, L.
Rhododendron, L.
Ledum L.
Epigea, L.
Leiophyllum, Ell.
Bejaria, Mx.
Rhodora, L.
Azalea, L.

B. Vaccineae.
Astringent, tonic; fruit refrigerant.
Vaccinium, L.
Oxycoccus, P.

C. Pyrolaceae.
Tonic, diuretic.
Chimaphila.
Monotropa, L.
Pyrola, L.
Monotropsis.
Pterospora, N.

52. CAMPANULACEAE.

A. Companulaceae.
Mild tonics, those with milky juice are acrid.
Campanula, L.
Specularia, Hiest.

B. Lobeliacea.
Acrid when they contain milk, mostly poisonous.
Lobelia, L.
Clintonia, Doug.

CLASS NINTH.

Corols on the germ, anthers united.
Compositae.
Tonic bitter, cecernent stimulants, carminitives.

53. CICHORACEÆ.

Secernent, stimulants, anodynes.
Hieraceae. (Hawkweed-like.)
Cichorium.
Hieraceum, L.—D. Don.
Prenanthes, L.
Lygodesmia, Don.
Taraxaceae. (Dandelion-like.)
Leontodon, Schreb.
Tragopogon.
Troximon, P.
Apargia, Scop.
Lapsania, L.
Lactuceae. (Lettuce-like.)
Lactuca, L.
Sonchus, L.
Borkhausia, Moench.
Schorzonera.
Ammobium.
Apogon.
Krigia.

54. CINEROCEPHALAE.

Secernent stimulant; if nanseous, cathartic.
A. Carduaceae. (Thistle-like.)
Chaptalia, Vent.
Carduus, L.
Centaurea, L.
Echinops, W.
Calendula, L.
Cnicus, L.
Sausurea, Dc.
Carthamus, W.
Brickellia.
Arctium, L.
Onopordon, L.
Cynara, W.

55. CORYMBIFERAE.

Tonics and secernent stimulants, feb. sud.
A. Inulae. (Elicampane-like.)
Elephantopus, L.
Liatris, L.
Pyrrocoma, Hk.
Pterocaulon, E.
Arnica, L.
Gnaphalium, L.
Antennaria, R. Brown.
Tagetes.

Vernonia, L.
Baccharis, L.
Inula, L.
Brachyris.
Buphthalmum, L.
Espeletia, H. and B.
Gymnostylis,
Conyza, L.
Baltimora.
Chrysopsis.
Stokesia, le'Her.
Madia.
B. Astereae. (Star-flower-like.)
Erigeron, L.
Diplopappus, Cassin.
Chrysocoma, L.
Aster, L.
Tripolium, Dod. Nees.
Euribia, Cassin.
Galatella, Cassin.
Boltonia, le'Her.
Townsendia, Hk.
Crinitaria, Cassin.
Solidago, L.
Bellis, L.
C. Eupatorineae. (Bone-set-like.)
Kuhnia, L.
Stevea, Con.
Tussilago, L.
Cineraria, L.
Nardosmia.
Eupatorium, L.
Polypteris. N.
Senecio, L.
Bœbera, W.
Mikania, W.
Cacalia, L.
Donia.
D. Heliantheae. (Sun-flower-like.)
Hymenopappus, le'Her.
Marshallia, Ph.
Helenium, L.
Zinnia, L.
Gallardia, Lk.
Coreopsis, Jacq.
Chrysogonum, L.
Leptopoda, N.
Pectis, L.
Starkea.
Trichophyllum, N.
Blepharipappus, Hk.
Eclipta, L.
Siegesbeckia.
Bidens, L.
Silphium, L.
Balduina, N.
Melananthera, Mx.
Tetragonotheca, le'Her.
Heliopsis.
Helianthus, L.
Wyethia, N.
Rudbeckia, L.
Acmella.
Actinella.
Actinomeris.
Ageratum.
Dahlia.
Calliopsis, Reichenb.
Polymnia, L.
Chrysanthemum, L.
Pyrethrum, W.
E. Anthemideae. (May-weed-like.)
Sparganophorus, Mx.
Anthemis, L.
Santolina, L.
Tanacetum, L.
Achillea, L.
Artemisia, L.
Omalanthus, Lessing.
Verbesina.
Matricaria.
F. Ambrosiacea. (Hog-weed-like.)
Parthenium, L.
Xanthium, L.
Iva, L.
Ambrosia, L.

CLASS TENTH.

Corols on the germ, anthers separate.

56. DIPSACEAE.

A. Dipsaceae.
Weak tonics.
Scabiosa.
Dipsacus, L.
B. Valerianeae.
Tonic, aromatic, vermifuge.
Plectritis, Dc.
Valeriana, L.
Patrinea, Juss.
Fedia.
Valerianella, Dc.
Phyllactis, P.

57. RUBIACEAE.

A. Stellatae.
Astringent, and a good dye weed.
Rubia, L.
Galium, L.
B. Cinchoneae. (Peruvian-bark-like.)
Powerful febrifuge, tonics.
1. *Spermacoceae.*
Spermacocea, Mayer.
Diodia, L.
Cinchonia.
2. *Cephalantheae.* (Button-bush-like.)
Cephalanthus, L.
3. *Hedyotideae.*
Hedyotis, L.
Anotis, Dc.
4. *Cinchonaea.*
Pinkneya, Mx.
5. *Psychotriaceae.*
Chiococca, P. Br.
Psychotria, L.
Mitchella, L.

58. CAPRIFOLIA.

A. Caprifoliaceae.
Astringent, fragrant.
1. *Lonicereae.* (Honeysuckle-like.)
Xylosteum.
Triosteum, L.
Lonicera, R. and S.
Symphoricarpus, Dill.
Diervilla, Tourn.
Linnaea, Gron.
Symphoria, P.
2. *Sambucinea.* (Elder-like.)
Viburnum, L.
Sambucus, L.
3. *Hedereae.*
Hedera.
Cornus, L.
4. *Hydrangeae.*
Hydrangea, L.
Hortensia.
B. Loranthea.
Astringent.
Viscum, L.
Arceuthobium, M. Bieb.

Section third. Flowers polypetalous.

CLASS ELEVENTH.

Stamens on the germ.

59. ARALIAE.

Stimulants.
Aralia, L.
Panax, L.

60. UMBELLIFEREAE.

A. Umbellifereae.
Stomachic, or narcotic if nauseous.
1. *Orthospermaeae.* (Fennel-like.)
Hydrocotyle, L.
Sanicula, L.
Zizia, Koch.
Coriandrum.
Bupleurum, L.
Seseli, L.
Angelica, L.
Carum.
Polytaenia, Dc.
Daucus, L.
Anethum.

Eryngium, L.
Sison.
Cnidium.
Archemora, Dc.
Œnanthe, L.
Cynosciadium, Dc.
Chaerophyllum.
Osmorhiza.
Thapsia, L.
Ferula, L.
Pastinaca, L.
Trepocarpus, N.
Eulophus, N.
Cymopterus, Raf.
Apium.
Cicuta, L.
Helociadium, Koch.
Discopleura, Dc.
Leptocaulis, N.
Sium, L.
Uraspermum.
Cryptotaenia, Dc.
Ligusticum, L.
Thapsium, N.
Peucedanum, Koch.
Heracleum, L.
Aethusa.
2. *Campylospermae.* (Hemlock-like.)
Conium, L.
3. *Coelospermae.*
Atrema, Dc.

CLASS TWELFTH.

STAMENS BELOW THE GERM.

61. RANUNCULACEAE.

A. RANUNCULACEAE.
Acrid, caustic, poisonous.
Tribe 1. *Clematidae.* (Virgin-bower-like.)
Atragene.
Clematis, L.
Cyrtorhyncha.
T. 2. *Anemoneae.* (Wild-flower-like.)
Thalictrum, L.
Hydrastis, L.
Anemone, L.
Adonis. L.
Hepatica, L.
T. 3. *Ranunculaceae.* (Crow-foot-like.)
Myosuris, L.
Ranunculus, L.
T. 4. *Helleborinae.* Columbine-like.)
Caltha, L.
Enemion, R.
Helleborus.
Trollius, L.
Aquilegia, L.
Delphinium, L.
Coptis, Sy.
Nigella.
Aconitum, L.
T. 5. *Paeoneae.* (Peony-like.)
Actaea, L.
Xanthorhiza, L.
Cimicifuga, L.
Paeonia, L.
Macrotys, R.
Hydropeltis.
Nectris.

62. PAPAVERACEAE.

A. PAPAVERACEAE. (Poppy-like.)
Narcotic, anodyne.
Papaver, L.
Platystemon.
Platystigma.
Sanguinaria, L.
Argemone, L.
Meconopsis, Vig.
Glaucium, L.
Chelidonium, L.
Chrysis.
Meconella.
B. NYMPHÆACEAE.
Sedative and narotic.
Nymphaea, S.
Nuphar, S.
C. NELUMBONEAE.
Tonic and cathartic.
Nelumbium, Ju.
D. PODOPHYLLEAE.
Cathartic.
Podophyllnm, L.
Jeffersonia, B.
E. SARRACENIEAE.
Slightly cathartic.
Sarracenia, L.
Dendromecon.

63. CRUCIFERAE.

A. CRUCIFERAE.
Antiscorbutic and nutritious.
T. 1. *Pleurorhizeae.* (Water-cress-like.
Cheiranthus, R. Brown.
Braya, Stermb.
Leavenworthia.
Lunaria.
Pachypodium.
Cardamine, L.
Visicaria, Lk.
Cochlearia, L.
Isatis.
Selenia, N.
Nasturtium, R. Brown.
Turritis, L.
Dentaria, L.
Parrya, R. Brown.
Alyssum, L.
Thysanocarpus, Hk.
Iberis, L.
Streptanthes, N.
Barbarea, R. Brown.
Arabis, L.
Camelina.
Crambe.
Phoenicaulis.
Draba, L.
Thlaspi, L.
Capsella, Vent.
Hutchinsia, R. Brown.
Cakile, L.
T. 2. *Notorhizeae.* (Pepper-grass-like.)
Hesperis, L.
Stanleya, N.
Warea, N.
Coronopus.
Sysimbrium, L.
Senebiera, Poir.
Erysimum, L.
Oreas, Cham and Schlecht.
Lepidium, L.
Platyspermum, Hk.
T. 3. *Orthoploceae.* (Mustard-like.)
Sinapis, L.
Brassica, L.
Platypetalum.
T. 4. *Diplecolobeae.*
Subularia, L.
Eutrema.
Hymenolobus.

64. CAPPARIDES.

A. CAPPARIDEAE.
Isomeris.
Cleome, L.
Cristatella.
Polanisia.
B. RESEDACEAE.
Tonic; used in dying.
Reseda.
Ellimia.

65. SAPINDI.

C. SAPINDACEÆ.
Tonic or poisonous.
Cardiospermum, L.
Sapindus, L.
Dodonaea.

66. ACERA.

A. HIPPOCASTANAE. Horse-chesnut-like.)
Aesculus, L.
B. ACERINEÆ.
Sugary nutritious, tonic.
Acer.
Negundo.

67. MALPIGHIAE.

68. HYPERICA.

A. Hypericineæ. (Johnswort-like.)
Cathartic and febrifuge.
Hypericum, L.
Ascyrum, L.
Diodea.
B. Droseraceæ. (Sundew-like.)
Slightly acrid, tonic.
Drosera, L.
Dionaea, L.

69. GUTTIFERAE.

A. Guttifereæ.
Cathartic, acrid.

70. AURANTIA.

A. Ternstromiaceæ. (Tea-like.)
Stomachic, tonic refrigerant.
Thea.
Gorgonia, Ellis.
Stuartia, Cav.
B. Aurantiaceæ. (Orange-like.)
Stomachic, tonic, refrigerant.
Citrus.
Limonia.

71. MELIAE.

A. Meliaceæ.
Tonic.
Melia, L.
B. Cedreleæ. (Mahogany.)
Febrifuge.
Swietenia, L.
C. Styraceæ. (Benzoin-like.)
Stomachic, aromatic, astringent.
Styrax, L.
Hopea.
Halesia, L.

72. VITES.

A. Vites.
Refrigerant, tonic, acid.
Ampelopsis, Mx.
Vitis, L.

73. GERANIAE.

A. Geraniaceæ. (Geranium-like.)
Astringent, aromatic.
Geranium, L.
Pelargonium.
Erodium.
B. Oxalideae. (Sorrel-like.)
Refrigerant, tonic.
Oxalis, L.
C. Tropaeoleae.
Tropaeolum.
Limnanthes.
D. Balsameae.
Scarcely cathartic.
Impatiens, L.

74. Malvaceae. (Mallows-like.)

A. Malvaceae.
Mucilaginous, all wholesome.
Althea.
Malope, L.
Lavatera.
Sida, L.
Abutilon.
Gossipium.
Malva, L.
Malvaviscus, Dill.
Hibiscus, L.

75. MAGNOLIAE.

A. Magnoliaceae.
Tonic, fragrant.
Magnolia, L.
Liriodendron, L.
B. Wintereae.
Stomachic, carminative.
Illicium, L.

76. ANNONAE.

A. Annonaceae.
Aromatic.
Porcelia.
Annona, Adans.

77. MENISPERMA.

A. Menispermeæ.
Tonic, rarely narcotic.
Menispermum, L.
Schizandra, Mx.
Cissampelos, D. C.
Wendlandia.

78. BERBERIDES, (Barberry-like.)

A. Barberideæ.
Refrigerant, tonic.
Berberis, L.
Leontice.
Vancouveria.
Achlys, Dc.
Diphyllia, Mx.
B. Hamamelideae.
Tonic.
Hamamelis, L.
Fothergilla, L.

79. TILIACEÆ. (Basswood-like.)

A. Tiliaceæ.
Emollient.
Tilia, L.
Corchorus.

80. CISTI.

A. Violaceæ.
Emetic, tonic.
Viola, L.
Ionidium, Dc.
B. Cistineæ.
Stomachic, tonic.
Helianthemum.
Turnera.
Hudsonia, L.
Lechea, L.

81. RUTACEÆ.

A. Rutaceæ.
Tonic.
Ruta.
B. Zygohpylleæ.
Tribulus, L.

82. CARYOPHYLLEÆ.
(Pink-like.)

A. Lineæ. (Flax-like.)
Emollient.
Linum, L.
B. Caryophylleæ. (Pink-like.)
Emollient.
1. *Sileneae.*
Dianthus, L.
Silene. L.
Saponaria, L.
Agrostemma.
Bryophyllum.
Lychnis, L.
2. *Alsineae.*
Sagina, L.
Spergula, L.
Arenaria, L.
Mollugo, L.
Merkia.
Stellaria, L.
Cerastium, L.
Micropetalon.
Frankenia.

CLASS THIRTEENTH.

Stamens surrounding the germ.

83. SEMPERVIVEÆ.

A. Crassulaceæ.
Refrigerant, emollient.
Sempervivum.
Lewisia, Ph.
Tillaea, L.
Penthorum.
Sedum, L.
B. Gallacineæ.
Scarcely tonic.
Galax, L.

84. SAXIFRAGÆ.

B. Saxifrageæ.
Astringent.
Saxifraga, L.

Leptarrhena, R. Brown.
Adoxa, L.
Tiarella, L.
Heuchera, L.
Itea, L.
Parnassia, L.
Chrysosplenium, L.
Tellima, R. Brown.
Drummondia, Dc.
Mitella, L.
Lepuropetalon.

85. CACTI. (Prickly-pear-like.)

A. GROSSULARIAE.
(Gooseberry and currant.)
Refrigerants, tonics. emetics.
Ribes, L.
B. CACTEAE. (Prickly-pear-like.)
Refrigerants, demulcents.
Cactus.

86. PORTULACCEÆ.

(Purslane-like.)
A. ELATINEAE.
Scarcely tonic.
Crypta, N.
B. PORTUEACCEAE. (Purslane-like.)
Emollient, scarcely tonic.
Portulacca, L.
Montia, L.
Talinum, L.
Claytonia, L.
Calandrinia.
Calyptridium.

87. FICOIDEÆ. (Fig-like.)

A. FICOIDEÆ.
Emollient, nutritious.
Mesembryanthemum.
Sesuvium, L.
Ficus, L.

88. ONAGRÆ.

A. ONAGARIAE.
Emollient.
Epilobium, L.
Oenothera, L.
Isnardia, Dc.
Ludwigia.
Clarkia, Ph.
Gaura, L.
Jussiaea, L.
B. HALORAGEÆ.
Aperient, tonic.
Proseripnaca, L.
Myriophyllum, L.
Hippurus, L.
C. CIRCAEACEÆ. (Enchanter's shade.)
Feebly cathartic.
Circaea, L.
D. CALLITRICHINÆ.
Emollient, cooling.
Callitriche, L.
E. CERATOPHYLLEÆ.
Sub-tonic.
Cerratophyllum, L.
F. HYDROCHARIDEÆ.
Sub-tonic.
Fuchsia.
Mentzelia, L.
G. LAOASEÆ.
Bartonia, N. & Ph.
H. TURNERACEÆ,
Sub-tonic.
Turnera, L.
Touterea.

89. MYRTI.

A. PHILADELPHEÆ. (Mock-orange-like.)
Tonic, aperient.
Philadelphus, L.
Decumaria, L.
B. MYRTACEÆ. (Myrtle-like.)
Aromatic, stomachic.
Myrtus.

90. MELASTOMÆ.

A. MELASTOMACEÆ.
Astringent, refrigerant.
Rhexia, L.

91. SALICARIÆ.

A. SALICARIÆ.
Astringent, vulnerary.
Ammannia, L.
Lythrum, L.
Cuphea, L.
B. RHIZOPHOREÆ.
Astringent.
Rhizophora, L.

92. ROSACEÆ.

A. CALYCANTHEÆ.
Aromatic, sub-tonic.
Calycanthus, L.
B. SANGUISORBEÆ. (Burnet-like.)
Sanguisorba, L.
Poterium, L.
Alchemilla, L.
C. ROSACEÆ.
Astringent, refrigerant, febrifuge.
1. *Potentillea.* (Five finger-like.)
Potentilla, L.
Aphanes.
Stylipus, Raf.
Agrimonia, Tourn.
Comarum.
Horkelia, Cham.
Fragaria, L.
Geum, L.
Sieversia, W.
Rubus, L.
Punica.
Dalibarda, L.
Dryas, L.
Sibbaldia, L.
2. *Rosea.* (Rose-like.)
Rosa, L.
3. *Spiraeaceae.*
Spiraea, L.
Purshia, Dc.
Gillenia, Mn.
D. POMACEÆ. (Apple-like.)
Refrigerant, aperient, tonic.
Aronia.
Mespilus.
Pyrus, L.
Crataegus, L.
Sorbus.
Armeniaca.
E. AMYGDALEÆ. (Peach and plum-like.)
Astringent, febrifuge, seed and leaves often narcotic.
Prunus, L.
Amygdalus.
Cerasus.
F. CHRYSOBALANEÆ.
Sub-tonic and nutritious.
Chrysobalanus, L.
Floerkea, W.

93. LEGUMINOSÆ.

(Pea-like.)
A. LEGUMINOSÆ. (Indigo and clover-like.)
Nutritious, anti-scorbutic, aperient.
Curvembriae. (Radicles reflexed on the Cotyledons.)
1. *Papilionaceae.* (lobes of the calyx distinct.)
Sophora, R. Brown.
Baptisia, Vent.
Medicago, L.
Trigonella.
Indigofera, L.
Petalostemum, Mx.
Tephrosia, Persoon.
Robinia, L.
Dolichos.
Astragalus, L.
Spartium.
Coronilla.
Lespedeza, Mx.
Pisum, L.
Phaseolus.
Erythrina.
Thermia.
Crotellaria, L.

Hosackia, Benth,
Trifolium, L.
Vexillaria, Ea.
Dalea, L.
Amorpha, L.
Sesbania, P.
Phaca, L.
Zornia, Gn.
Ulex, L.
Arachis.
Vicia, L.
Lathyrus, L.
Lupinaster.
Virgilia, Lamk.
Genista, L.
Melilotus, Tourn.
Psoralea, L.
Galactia, L.
Glycina.
Homalobus.
Kentrophyta.
Pitcheria, N.
Glycirrhiza, L.
Colutea.
Cicer.
Oxytropis, Dc.
Centrosema.
Chapmannia.
Stylosanthes, Swtz.
Aeschynomene, L.
Hedysarum, L.
Ervum, L.
Astrophia.
Lupinus, L.

Rectembriae. (*Radicle straight.*)

2. *Mimoseae.* (Divisions of the calyx and corol valvate in aestivation.

Darlingtonia, Dc.
Acacia, Necker.
Schranckia, W.
Prosopis, L.

3. *Caesalpineae.* (Petals imbricate in aestivation.)

Cassia, L.
Gleditschia, L.
Agati.
Gymnocladus, L.
Cercis, L.
Pomaria, Cav.

B. Polygaleæ. (Seneca snake-root.)
Stimulant, diuretic.

Polygala, L.
Krameria, L.

C. Fumariaceæ.
Diuretic, aperient, diaphoretic.

Corydalis, Dc.
Adlumia.
Dielytra.
Fumaria, L.

94. TEREBINTACEAE.

A. Amyrideæ.

Amyris.

B. Juglandeæ.
Cathartic, astringent.

Juglans, L.
Carya, N.

C. Anacardiaceæ.
Poisonous, acrid, astringent.

Rhus, L.
Styphonia.

D. Xanthoxyleæ.

Xanthoxylum.
Pitavia.
Ptelea.

65. RHAMNI.

A. Celastrineæ.
Cathartic.

Celastrus, L.
Euonymus, L.

B. Rhamneæ.
Cathartic.

Rhamnus, L.
Ceanothus, L.

C. Staphylaceæ.
Cathartic.

Staphylea, L.

D. Ilicineæ.
Tonic, astringent.

Ilex, L.
Nemopanthes, R.
Prinos, L.
Myginda, Jacq.

CLASS FOURTEENTH.

Flowers mostly apetalous.

96. EUPHORBEÆ.

A. Euphorbiaceæ. (Spurge, caper.)
Tonic, irritating, stomachic.

Pachysandra, Mx.
Borya, W.
Phyllanthus, L.
Acalypha, L.
Croton, L.
Tragia, L.
Jatropha, L.
Euphorbia, L.
Crotonopsis, Mx.
Stillingia, L.
Ricinus, L.
Buxus.

B. Empetreæ.
Sub-tonic.

Empetrum, L.
Ceratiola, Mx.

97. CUCURBITACEÆ.

A. Passifloreæ. (Passion-flower.)
Fragrant, sub-tonic.

Passiflora, L.

B. Papayaceæ. (Papaw tree.)
Solvent, vermifuge.

Carica, L.

C. Cucurbitaceæ.
Nutritious, refringerant, cathartic.

Cucumis, L.
Cucurbita.
Melothria, L.
Sicyos, L.
Momordica, L.

98. URTICEAE.

A. Urticeæ. (Nettle-like.)
Narcotic, tonic, anodyne.

Urtica, L.
Humulus, L.
Parietaria, L.
Boehmeria, W.
Cannabis, L.

B. Atrocarpeæ. (Poison upas and Caoutchouc tree are here.)

Morus, L.
Maclura, N.

C. Datisceæ.

Broussonetia.
Datisca, L.

D. Saurureæ.
Cathartic.

Saururus, L.

E. Piperaceae. (Pepper.)

Piper, L.

99. AMENTACEÆ.

A. Ulmaceae. (Elm.)
Emollient, tonic.

Ulmus, L.
Planera, Gmel.
Celtis, L.

B. Cupulifereae. (Oak.)

Quercus, L.
Corylus, L.
Castanea, Tourn.
Fagus, L.

C. Betulineae. (Birch-like.)
Astringent, febrifuge, stomachic.

Betula, L.
Ostrya, Mx.
Alnus, W.
Carpinus. L.

D. Salicineæ. (Willow.)
Astringent, tonic, stomachic.

Salix, L.
Populus, L.

E. Platanaee. (Button-wood.)
Tonic, aromatic.

Platanus, L.
Liquidambar, L.

F. MYRICEAE. (Sweet-fern.)
Aromatic astringent, stomachic.
Myrica, L.
Comptonia, Gaert.

C. CONIFEREÆ.

A. CYCADEAE. (Sago-plant.)
Emollient.
Cycas.
Zamia, L.
B. CONIFEREÆ. (Pines.
Balsamic, stomachic, healing.
Juniperus, L.
Pinus, L.
Thuja, L.
Taxus, L.
CUPRESSUS, L.
Torreya.

ABBREVIATIONS OF WORDS,

USED FOR INDICATING THE

PROPERTIES OF PLANTS, OR OF PARTICULAR PARTS OF THEM.

LETTERS. b. bark, d. dry, e. extract, f. fruit, g. green, h. herbage, o. oil or olifiant, r. root, s. seed, w. wood; g. d. and e. are often joined to other abbreviations, as g-r. green root, d-h. dry herbage, e-o. essential oil. The signs, plus and minus, express the degrees of strength; as ton+. strong tonic, poi—. weak poison.

abs—orbent.
aci—d.
acr—id.
alc—oholic.
amy—laceous.
ano—dyne.
ant—idote.
ath. anthelmintic.
anm. antimiasmatic.
ape—rient.
aro—matic.
ase. antiseptic.
asc. antiscorbutic.
asp. antispasmodic.
ast—ringent.
bal—samic.
bev—erage.
bit—ter.
cab—inet work.
car—minitive.
carp—entry work.
cath—artic.
cata—plasm.
cau—stic.
con—diment.
coo—ling.
cor—dial.
cos—metic.
dem—ulcent.
deo—bstruent.
det—ergent.
dia—phoretic.
dis—cutient.
diu—retic.
dra—stic.
dye—stuff, dying.
edi—ble.
eme—tic.
emo—lient.
epi—spastic.
esc—arotic.
exp—ectorant.
fac—tory work.
far—inaceous.
feb—rifuge.
fod—der for cattle.
fom—enting.
fra—grant.
gar—gle.
gel—atinous.
gum—miferous.
hea—ling.
irr—itating.
jel—ly-bearing.
lax—ative.
lot—ion making.
muc—ilaginous.
nar—cotic.
nau—seating.
ner—vine.
nut—ricious.
odo—riferous.
opi—ate.
pec—toral.
pru—ssic acid.
poi—sonous.
pti—san.
pun—gent.
ref—rigerent.
res—inous.
rub—ifacient.
sal—ivary.
sap—onaceous.
sec—ernant.
sed—ative.
sia—logogue.
sol—vent.
sop—orific.
spi—cy.
sti—mulant.
sto—machic.
sud—orific.
sug—ary.
tan—nin.
tes—ts for acids and al.
tim—ber.
tin—cture.
ton—ic.
ver—mifuge.
vin—ous.
vis—cous.
vul—nerary.
war—ming.

ABBREVIATIONS OF WORDS

USED FOR INDICATING THE DISEASES FOR WHICH PLANTS ARE USEFULLY EMPLOYED.

[Such abbreviations are printed in Italics.]

ast—hma.
cac—hexy.
can—cer.
col—ic.
cons—umption.
conv—ulsions.
cos—tiveness.
cou—gh.
cra—mp.
cro—up.
cyn—anche.
dea—fness.
diab—etes.
diar—rhea.
dro—psy.
dyse—ntary.
dysp—epsia.
dysu—ria.
epi—lepsy.
eru—ption.
ery—sipelas.
fai—nting.
fev—er of any kind.
fev-a. fever-ague.
fla—tulence.
gan—grene.
gid—diness.
gout. ———.
hem—optesis.
hec—tic.
hic—cough.
hyd—rophobia.
itch. ———.
jau—ndice.
leth—argy.
oph—thalmia.
palp—itation.
pal—sey.
pi—les.
ple—urisy.
pne—umonia.
qui—nsy.
ra—sh.
rhe—umatism.
ric—kets.
rin—gworm.
st. v. st. vitus-dance.
sci—rrhous.
scr—ophula.
scu—rvy.
tum—or.
tae—nia.
ulc—ers.
vom—iting.
wor—ms.

☞ The properties of plants, and the diseases to which they are applied, are given on higher authority in the part of this work where the species are described, and in the alphabetical catalogue of Natural Orders, than under the hundred general orders of Jussieu.

NORTH AMERICAN PLANTS.

GENERA.

CLASS I. MONANDRIA.

Order I. Monogynia.

Salicornia. Calyx fleshy: entire, 3 or 4 sided, obconic: corol 0: stamen in the bottom of the calyx: style 2 cleft: utricle 1, vertically compressed, enclosed in the calyx. (saphmire.) *S.*

Hippuris. Calyx superior, obsolete, with a 2-lobed margin: corol 0: seed 1: stigma simple: style in a groove of the anther: germ crowned by the rim of the calyx. (marestail.)

Southern.

Canna. Calyx double: outer one short, 3-cleft, permanent; inner one (or corol) 6-parted; one of the divisions reflexed: anther simple, attached to the margin of the filament, which is petal-like and 2-lobed: style thick, club-form; stigma linear obtuse: capsule muricate, 3-celled: seeds numerous and globose. (flowering reed.)

Thalia. Calyx double; outer one small, 3-sepalled, inner one (or petal) 5-parted: anther simple, ovate, inserted into a depressed filament: style short, bent from the anther: stigma perforated, depressed, ringent: capsule 2-celled, (in some species a 1 celled nut) (long stems.)

*Scirpus, Cyperus.

Order II. Digynia.

Callitriche. Calyx inferior, 2-sepalled: capsule 2-celled, membranaceous and margined: seeds 4, compressed: (flowers sometimes monœcious, and by some the calyx is called the corol.) (water-starwort.) *S.*

Blitum. Calyx 3-cleft, or 3-parted, berry-like: corol 0: seed 1, immersed in the calyx. (blite.)

Southern.

Corispermum. Calyx 2-parted or 2-sepalled: corol 0: seed 1, plano-convex, oval, having an acute, circular margin. Stamens sometimes 5. (tickseed) *S.*

Calyptridium. Sepals 2, ovate, permanent, corol monopetalous, minute, diaphanous, slightly 3-toothed at the apex—soon detached from the base and carried up, on the summit of the elongated capsule: the capsule oblong-linear, many times longer than the calyx, 1-celled, 2-valved, 6 to 10 seeded.

*Uniola, Saccharum.

CLASS II. DIANDRIA.

Order I. Monogynia.

A. *Corol 1-petalled, inferior, regular.*

Ligustrum. Calyx-4 toothed: corol with 4 ovate divisions: berry 1 or 2-celled, 2 to 4-seeded. (prim.)

Chionanthus. Calyx 4-parted: corol 4-parted, with very long divisions: nucleus of the drupe striate-fibrous. (fringe tree.) *S.*

Ornus. Calyx 4-parted: corol 4-parted: divisions long, ligulate: stamens with two barren filaments: fruit with a winged nut. (flowering ash.)

Exotic.

Jasminum. Corol salver-form; 5 to 8-cleft: berry 2-seeded, each seed solitary, arilled. (jasmine.)

Syringa. Corol salver-form 4-cleft: capsule 2-celled. (lilac.)

Southern.

Olea. Calyx small, 4-toothed: corol with a short tube, 4-cleft, segments ovate: drupe 1-seeded, often with an abortive rudiment. (american olive.)

Elytraria. Calyx 4 or 5-parted, with the front segment cleft: corol 5-cleft, segments nearly equal: stamens with 2 barren filaments: capsule 2-celled, 2-valved; each valve having half the partition attached to it.

B. *Corol 1-petalled, inferior, irregular.*

Veronica. Calyx 4-parted: corol cleft into 4 lobes, lower division smaller: capsule obcordate, few-seeded, 2-celled. (speedwell.) *S.*

Gymnandra. See description in its order in Species part.

Leptandra. Calyx 5-parted, acuminate: corol tubular, 4-cleft, with one division smaller: capsule ovate, 2-celled, opening at the top. (culver's physic.) *S.*

Gratiola. Calyx 5-parted or 5-sepalled, sometimes with a 2-leaved calycle: corol 2-lipped, reversed, tubular, upper lip 2-lobed, under one equally 3-cleft: stamens 4, (2 of them barren:) stigma 2-lipped: capsule 2-celled. (hedge-hyssop.) *S.*

Lindernia. Calyx 5-parted, equal: corol reversed, tubular. ringent, the upper lip very short, the lower one unequally 3-cleft, 2-keeled at the base: anthers cohering by pairs, 2 stamens longer, forked, barren: capsule 2-celled, 2-valved, the partition parallel to the valves. *S.*

Pinguicula. Calyx 2-lipped, upper lip 3-cleft, lower one 2-cleft: corol ringent, with a spur at the base; limb 2-lipped, upper lip 3-lobed, lower one 2; throat contracted: stamens and style short: stigma 2-lipped, covering the anther: capsule 1-celled, many seeded, receptacle of the seed central, unconnected. (butter-wort.) *S.*

Hemianthus. Calyx tubular, border 4-toothed, cleft on the under side: corol with the upper lip obsolete, lower one 3-parted, with the middle segment linear, or strap-like and truncate, long, closely incurved: stamens with 2-cleft filaments, bearing the anthers on the lateral branches: capsules 1-celled, 2-valved, many-seeded: seeds ovate, shining.

Catalpa. Corol 4 or 5 cleft, somewhat inflated, bell-form, calyx 2-parted or 2-sepalled: stigma 2-lipped: capsule cylindric, 2-celled. (catalpa tree.) *S.*

Justicia. Calyx simple or double, 5-parted: corol ringent, or nearly equal, upper lip emarginate, lower one 3-cleft: anthers 1 or 2 on each filament: capsule 2-celled, bursting with an elastic claw, partitions transverse. (malabar nut.) *S.*

Utricularia. Calyx 2-sepalled or 2-parted, equal: coral ringent, with a subcordate palate, the upper lip bearing the stamens, the lower lip spurred: stigma 2-lipped: capsule 1 celled, globular. (bladder-wort.) *S.*

Southern.

Micranthemum. Calyx 4-parted: corol 4 parted, and somewhat 2-lipped, with the upper one smaller than the rest: filaments incurved, shorter than the coral: capsule sub-globular, 1-celled, 2-valved, with many striate seeds.

C. *Coral 1-petalled, inferior, irregular. Fruit of 1—4 nut-like cells, enclosed in the calyx.*

Lycopus. Calyx tubular, 5-cleft or 5-toothed: corol tubular, 4-cleft, nearly equal, 1 division broader and emarginate: stamens distant: nuts 4, retuse. (water horehound.) *S.*

Monarda. Calyx cylindric, striated, 5-toothed: coral ringent, tubular, upper lip lance-linear, involving the filaments, lower lip reflexed, 3-lobed. (Oswego tea, mountain mint.) *S.*

Salvia. Calyx tubular, striated, 2-lipped, upper lip 2 to 3-toothed, lower lip 2-cleft: corol ringent: filaments transversely or laterally affixed to a pedicel. (sage.) *S.*

Collinsonia. Calyx tubular, 2-lipped, upper lip 3-toothed; corol funnel-form, unequal, under lip many-cleft, capillary: one perfect seed, nut one. (horse-balm.) *S.*

Exotic.

Rosmarinus. Corol ringent, upper lip 2-parted: filaments long, curved, simple, with a tooth. (rosemary.)

D. *Corol superior.*

Circæa. Calyx 2-sepalled or 2-parted: corol 2-petalled: capsule hispid, 2-celled, not gaping; cells 1 or 2-seeded. (enchanter's nightshade.) *S.*

*Salicornia, Cunila, Schoenus, Scirpus, Verbena, Hedeoma, Lemna, Crypta.

Order II. Digynia.

Anthoxanthum. Glumes 2, 1-flowered: paleas 2, accuminate, awned near the base. (sweet vernal grass.) *S.*

Crypta. Peplis. Calyx 2-sepalled, inferior: corol 2 or 3-petalled, closed: styles none: stigmas 2 or 3, very minute: capsule 2 or 3-celled, 2 or 3 valved: cells 4 or 5-seeded: seeds sub-cylindric, striate, incurved. (mud-purslane.) The corol appears like a capsule with an aperture at the top, when examined without a lens.

Southern.

Erianthus. Glumes 2, valves nearly equal, villose at the base: paleas 2, unequal, inner glume bearing a long awn near the summit.

*Holcus, Festuca, Saccharum.

Order III. Trigynia.

Piper. Calyx 0: corol 0: berry 1-seeded: spadix simple, slender, covered with little flower-bearing scales.

CLASS III. TRIANDRIA.

Order I. Monogynia.

A. *Flowers superior.*

Fedia. Calyx 3 to 6-toothed, permanent: corol tubular, 5-cleft or 5-parted: nut or capsule 2 or 3-celled: seed naked, or crowned with a tooth. (lamb-lettuce.) *S.*

Iris. Calyx spathe 2 or 3-valved: corol 6-parted, divisions alternately reflexed: stigmas 3, petal-like: style short: capsule 3-celled. (flower-de-luce, iris or flag.) *S.*

Dilatris. Lachnanthes. Perianth petal-like, hirsute outside, permanent, deeply divided into 6 nearly equal parts: the third filament less than the rest: stigma minutely 3-lobed, style declining: capsule globose, 3-celled.

Patrinia. Calyx with the limb truncate, or erect, very short, sub-5-toothed: corol regular, obtusely 5-lobed not spurred: stamens 4, adnate to the tube of the bottom of the corol, alternating with the lobes uppermost deficient, rarely 5; all then standing together: stigma in a 3-cornered head: capsule 3-celled, crowned with the limb of the calyx.

Plectritis. Calyx with the margin straight entire: corol with the tube short-spurred at the base, gibbose before, limb 5-cleft 2-lipped: capsule 1-celled 2-winged.

Valerianella. Calyx with the limb toothed, permanent: corol not spurred, regular, 5-lobed: stigma sub-trifid: capsule 3-celled, submembranous crowned with the thickened variably toothed limb of the calyx.

Valeriana. Calyx extremely small, finally enlarged into a feathery egret: corol funnel-form, 5-cleft, base gibbose: seed 1: stamens, 1, 2, 3, and 4: exsert. (valerian.)

Exotic.

Crocus. Spathe radical: corol funnel-form, with a long slender tube: stigma deep gashed, crested. (saffron.)

Southern.

Phyllactis. Involucre 1-leaved, sheathing: calyx marginal, minute: corol 3-cleft. seed 1: styles and stamens exsert.

Apteria. Calyx 0: corol monopetalous, wingless, bell-tubular with the margin 6-toothed, alternately smaller: capsule 1-celled, valveless: seeds numerous minute.

Tripterella. Calyx (or corol) tubular, prismatic, with winged margins, base ventricose; limb 6-cleft, internal teeth covering the stamens: corol none: stigmas 3, capitate: capsule 3-sided 3-celled, many-seeded: stamens included within the tube of the calyx.

Boerhaavia. Calyx tubular: margin entire: corol 1-petalled, bell-form, plaited: nut 1, invested by the permanent calyx, naked or tubercled, 5-grooved, obconic: stamens various in number, as 1, 2, 3, 4, 10, 54, 32.

Calymenia. Allionia. Involucre perianth-like, 5-parted, permanent, 1 to 5-flowered: perianth none: corol sub-campanulate, plaited, 5-parted; laminae emarginate, tube permanent: stamens exsert: seed 1, covered with a coriaceous membrane, obconic, 5-furrowed.

Ixia. Spathe 2 or 3-valved, ovate, short: corol 6-parted or 6-petalled, sometimes tubular: stamens straight or incurved: stigmas sub-filiform.

B. *Flowers inferior.*

Commelina. Spathe cordate; sepals 3: corol 3-petalled, sub-equal: 3 barren filaments—sometimes the whole 6 filaments bear anthers: stigma simple: nectaries 3, cross-form, inserted on peculiar filaments: capsule sub-globose, 3-celled, cells 2-seeded or empty. (day flower.) *S.*

Xyris. Calyx a cartilaginous glume, 2 or 3-valved, in a head: corol 3-petalled, equal, crenate: capsule 3-valved, many-seeded. (yellow eyed-grass.) *S.*

Schollera. Leptanthus. Spathe 1-flowered; corol long-tubular: border 6-parted, with the stamens on the divisions: filaments equal.

Heteranthera. Calyx a 2 or 3-flowered spathe: corol dull-colored, membranaceous, with a long slender tube, border 4 to 6-parted: anthers 3, 2 of them attached to the divisions of the corol, the other attached to the top of the style, and much larger: stigma sub-capitate, 1-sided: capsule 3-celled, many-seeded, dehiscent at the angles. This genus is intermediate between the class Triandria, and the class Gynandria.

Southern.

Syena. Calyx deeply 3-parted (or 3-sepalled) acute, permanent: petals 3, roundish: anthers oblong: stigma 3-cleft: capsule rendered acuminate by the permanent style, 1-celled, 3-valved.

Stipulicida. Calyx 5-parted, permanent: corol 5-petalled, entire, as long as the calyx: style short, stigmas 3: capsule 1-celled 3-valved: seeds few, attached by filaments to the receptacle.

Polychnemum. Calyx 3-sepalled: petals calyx-like: capsule 1-seeded, membranaceous, not opening, covered by the calyx. Stamens vary from 1 to 5.

C. *Flowers with glumes. Sedges.*

Kyllinga. Spikelets 1-flowered: glumes 4, imbricated in 2 rows, compressed; the 2 lower ones are swollen and the upper one empty, the intermediate similar to the upper and including a naked perfect flower: style bifid: no bristles under the ovarium: seed lenticular. (bog-rush.) *S.*

Scirpus.[*] Glume 1-valved, 1-flowered, chaffy, scales imbricated every way, some of them empty: styles filiform, caducous: ovarium single, naked, or surrounded with hairs or bristles. (club-rush.) *S.*

Schoenus. Spikelets sub-convolute, acute; scales or glumes heaped in fascicles, outer ones dry, shining, empty: ovarium roundish, naked: style caducous. (bog-rush.) *S.*

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[*] Trichophorum is united to this genus.

Rhynchospora. Scales or glumes of the calyx fascicled into a spike, lower ones empty: styles permanent at the base: bristles surrounding the base of the ovarium. (false bog-rush.) *S.*

Mariscus. Spikelets few-flowered: glumes imbricated in 2 rows, the lower empty: stamens sometimes 2: style 3-cleft: neither scales nor bristles below the ovarium: seed triangular. (hedgehog-rush.) *S.*

Dulichium. Spikes sub-racemed, proceeding from the axils of the leaves: spikelets linear-lanceolate, sub-compressed: scales or glumes somewhat 2-ranked, closely imbricated: styles very long, 2-cleft: germ with small bristles, rough backwards. (galingale.) *S.*

Cyperus. Scales imbricated 2-ways: ovarium without bristles: spikelets compressed, distinct. *S.*

Eriophorum. Glume chaffy, 1-valved, imbricated every way into a spike: pericarp beset round with very long dense wooly hairs. (cotton grass.) *S.*

Fuirena. Scales mucronate or awned, every where imbricate in a spike: pericarp beset round with broad chaff-like scales, sometimes awned. These scales are called valves of a corol by some. (umbrella-grass.) *S.*

Cenchrus. Involucre aciniate, echinate, 3 or 4-flowered: glumes 2-valved, 2-flowered, outer valve smallest: florets dissimilar; the outer stamminate or neutral, the inner perfect: style 2-cleft. (hedge hog-grass.) *S.*

Limnetis. Spartina. Glume 2-valved, compressed, one of them keeled and longer than the other: paleas (chaff) 2-valved, awnless, unequal: flowers in unilateral spikes, somewhat imbricated in 2 rows. (salt-grass.) *S.*

Oryzopsis. Glume 2-valved, lax, obovate: paleas coriaceous, cylindric-ovate, surrounded with hairs at the base: valves 2, outer one awned at the tip: ovarium with 2 linear appendages, or one 2-parted: styles united in one, with 2 diverging or reflexed stigmas. (mountain rice.)

Fimbristylis. Scales imbricated on all sides into a spike: style ciliate, caducous, bulbous at the base. *S.*

Southern.

Mapania. Flowers in heads, involucre 3-leaved: perianth none: paleas glumaceous, 6-valved, toothed, imbricate: stigmas 3: seeds enveloped in a 6-parted glume.

Vaginaria. Spike ovate, scales imbricated on all sides, acuminate: stigmas 3: ovarium surrounded at the base with three scales and three bristles.

Nardus. Glume 1-flowered, 1-valved: palea 1, included in the calyx: stigma 1. Flowers spiked, alternating and sessile. (mat-grass.)

Miegia. Arundinaria. Flowers polygamous panicled: glume 2-valved, many-flowered, short and unequal: paleas 2, unequal, the larger one acuminate: style very short, 3-cleft, plumose: nectary 3-parted, divisions lanceolate, acute, as long as the germ: large, acuminate. (cane.)

Eriocoma. Glumes 2, 1-flowered; valves gibbous, compacted above, longer than the palea, 3-nerved, cuspidate: paleas 2, roundish, coriaceous, invested with wool; the outer valve terminated by a short 3-sided caducous awn: anthers bearded: pericarp sub-spherical, large. (silk-grass.)

Dichromena. Spike in a head, involucred: scales imbricated on all sides into crowded sessile spikelets, with the lower ones empty: style bristle-form, 2-cleft: no bristles under the ovarium: pericarp sub-lenticular, sub-rugose, terminated by the triangular permanent style.

*Juncus, Galium, Oryzopsis, Queria.

Order II. Digynia.

A. *Spikelets 1-flowered: paleas without abortive rudiments of flowers at the base.*

(Glume and paleas different in texture.)

Leersia. Spikelets 1-flowered, compressed, glumes 0: chaffs compressed, awnless, lower one much broader, boat-form, with prominent keel: scales ovate, membranaceous, smooth: stamens 1 to 6. (cutgrass.) *S.*

Paspalum. Ceresia. Glume in 2 membranaceous, equal, roundish, valves: paleas awnless, cartilaginous, of the form of the glume. stigma plumose, colored. nectary lateral: flowers in unilateral spikes. *S.*

Milium. Glume 2-valved, herbaceous, ventricose: paleas 2, awnless, coriaceous, oblong, concave, shorter than the glume: seed 2-horned: nectary lateral: stigmas villose. (millet.) *S.*

Piptatherum. Glume membranaceous, longer than the paleas: paleas cartalaginous, oval; lower valve awned at the tip; nectary ovate, entire: seed coated.

Stipa. Glume 2-valved, membranaceous: paleas 2-valved, shorter than the calyx, coriaceous, sub-cylindric; valves involute, truncate: awn terminal, very long, caducous, twisted at the base: seed coated. (feather-grass.) *S.*

Aristida. Glume 2-valved, membranaceous, unequal: paleas 2-valved, pedicelled, sub-cylindric: lower valve coriaceous, involute, 3-awned at the tip; upper valve very minute or obsolete: nectary lateral. (bread-grass.) *S.*

Exotic.

Saccharum. Glume involucred with long wool at the base, 2-valved: paleas 1 or 2-valved: stamens 1 to 3. (sugar-cane.)

(Glume and paleas of similar texture—flowers in spreading panicles.)

Muhlenbergia. Glume 1 or 2-valved, very minute, truncate, unequal: paleas 2-valved, base hairy, outer valve awned at the tip: seed naked, not furrowed. (drop-seed-grass.) *S.*

Trichodium. Glume 2-valved, valves nearly equal, acute: keel scabrous, paleas 1-valved, awnless, shorter than glume: stigmas nearly sessile, sub-hispid. (thin-grass.) *S.*

Agrostis. Glumes 2, nearly equal, sometimes longer, but often shorter, than the paleas; the lower one longer, sometimes awned, often hairy at the base, enclosing the seed. (redtop.) *S.*

Cinna. Glume 2-valved, compressed, nearly equal: paleas linear, compressed, short-stiped, naked at the base: lower valve inclosing the upper, short-awned near the tip.

Polypogon. Glume 2-valved, 1-flowered; valves nearly equal, terminating in a bristle, shorter than the glume: the lower valve terminating in the bristle.

Trichochloa. Glume 2-valved, 1-flowered, very minute: paleas much larger than the glume, 2-valved, naked at the base; lower valve convolute at the base, terminating in a long awn not articulated.

Calamagrostis. Spikelets 1-flowered: glumes nearly equal, acute or acuminate: paleas 2, mostly shorter than the glumes, surrounded with hairs at the base: lower one acuminate, mostly awned below the tip; the upper one with a stiped pencil-form egret at the base. (reed.)

(Glume and paleas of similar texture—flowers in compact panicles, often spike-form.)

Psamma. Glume 2-valved, awnless: paleas shorter than the glume, surrounded with hairs at the base: nectary lance-linear, longer than the seed: style 3-parted.

Cripsis. Glume 2-valved, oblong, keeled, membranaceous: paleas 2-valved, longer than the glume, which it resembles in texture and form; nectary none: stamens sometimes but 2.

Alopecurus. Glumes 2, equal, generally connate at the base: paleas 1-valved, utricle-like, cleft on one side, awned below the middle. (foxtail-grass.) *S.*

Phleum. Glume hard, 2-valved, equal, sessile, linear, truncate, bicuspidate: paleas enclosed in the glume, 2-valved, awnless, truncate. (timothy-grass.) *S.*

Southern.

Ceresia. Flowers lateral, 2-rowed, under a wide membranaceous boat-form rachis:

B. *Spikelets 1-flowered: paleas with* 1 *or* 2 *abortive rudiments of flowers at the base.*

(Glume and paleas of different texture.)

Cynodon. Glume 2-valved, lanceolate, spreading: paleas 2, longer than the glume: the outer valve larger, and somewhat oval, and surrounding the inner one: rudiment minute, pedicelled: scale truncate: spikes digitate and fascicled: flowers solitary. (dwarf finger-grass.)

Southern.

Gymnopogon. Anthopogon. Glume 2, keeled, nearly equal, longer than the paleas: paleas, nearly equal, having a straight bristle a little below the tip of the lower one: rudiment awn-form.

Aulaxanthus. Aulaxia. Glumes 2, 1-flowered, with the rudiment of a second; valves equal, furrowed, the furrows villous.

(Glumes and paleas of similar texture.)

Phalaris. Glumes 2, membranancous, keeled, nerved, equal in length, including the 2 pilose paleas: the paleas are shorter than the glumes, and coriaceous: rudiments opposite, sessile, resembling valves: scale lateral. (ribbon-grass, canary-grass.) *S.*

Brachyelytrum. Glumes very minute; one longish and acute, the other scarcely perceptible: the lower palea terminated by a bristle twice as long as the glume.

Southern.

Beckmannia. Glumes 2-valved, 1 or 2-flowered, valves somewhat obcordate, inflated, equal: paleas 2, included in the glume, valves unequal, the dorsal valve acuminate-awned: one flower often abortive.

Orthopogon. Glumes 1-flowered; valves 3, awned, nearly equal; awns straight, smooth, that of the outer valve longest.

C. *Spikelets many-flowered.*

(Flowers in panicles; paleas unarmed.)

Glyceria. Spikelets terete, elongated: glume many-flowered, shorter than the florets: lower valve of the paleas membranaceous and somewhat herbaceous; upper one somewhat conduplicate: scale lateral, connate: stigma decompound.

Uniola. Spikelets many flowered, flat, 2-edged, ovate: glumes 3 to 5; paleas 2, awnless, inner one smallest, concave on the back; outer one boat-form: stamens 1 to 3: appendages 2, somewhat 2-horned emarginate. (sea rush-grass.) *S.*

Briza. Spikelets heart-ovate, many-flowered: glume boat-form, shorter than the 2-ranked florets: paleas ventricose; lower valve cordate, upper one orbicular, short. (quake-grass.) *S.*

Poa. Spikelets oblong or linear, compressed, many-flowered: glume shorter than the florets: paleas herbaceous, awnless, often arachnoid at the base; lower valve scarious at the margin. (spear-grass.) *S.*

Exotic.

Sorghum. Florets in pairs, one perfect, with 3 paleas and sessile; the other staminate or neutral, and pedicelled. (broom-corn.)

(Flowers in panicles: paleas armed or mucronate.)

(Seeds free.)

Arundo. Spikelets many-flowered: glumes 2, lanceolate, unequal; the lower florets staminate and naked at the base; the others perfect on villous peduncles: paleas unequal, the lower one much longer with a long involute awn-like acumination.

Koeleria. Glume 2—4-flowered, shorter than the florets: lower palea mucronate, or with a short bristle a little below the tip.

Uralepsis. Glumes 2, scarious, 2 or 3-flowered: paleas 2, stiped; outer valve with hairy nerves, much longer than the glumes and tricuspidate, with the middle cusp longest, and terminated with an awn; inner valve short and arched: seed arilled: florets alternate and distinct, both flowers and culm purple. (purple hair-grass.)

Windsoria. Tricuspis. Glumes 2, keeled, 1-nerved: scarious, acute or cuspidate: paleas 2, outer valves having nerves with mucronate points, teeth between the points, and ciliate below; inner valves mostly naked, emarginate: flowers closely imbricated 2-ways in a thick spike.

(Seeds adnate.)

Festuca. Spikelets oblong, more or less terete, at length compressed, acute at each end: florets sub-terete: glumes unequal shorter than the lower florets, keeled, acute: paleas lanceolate, the lower one acuminate or rounded at the extremity. (fescue-grass.) *S.*

Ceratochloa. Spikelets lanceolate, somewhat 2-edged, many-flowered: glume shorter than the imbricate florets: lower palea compressed, mucronate below the tip: upper valve somewhat conduplicate; styles 2—3-parted.

Diarrhena. Glumes 2, very unequal, 2 to 5-flowered, rigid, upper valve 2-keeled, very rough, acuminate-mucronate: paleas cartilaginous: inferior valve entire, broad: superior one very short, emarginate: seed coated, in length equal with the superior palea: scale ovate, ciliate.

Dactylis. Spikelets aggregated in unilateral heads, many-flowered: glumes shorter than the florets, with a large one keeled, pointed: lower palea emarginate, mucronate: upper one sub-conduplicate. (orchard-grass.) *S.*

(Flowers in panicles; paleas more or less 2-cleft, and the lower one awned on the back or a little below the tip.)

Danthonia. Glumes 2 to 5-flowered, longer than the florets, cuspidate: paleas bearded at the base; lower one 2-toothed, with a twisted awn between the teeth; upper one obtuse, entire. (wild oats.)

Trisetum. Glume 3 to 5-flowered, membranaceous, as long as the florets: lower palea with 2 bristle-form teeth at the tip, and an awn below the teeth.

Bromus. Glumes 2, shorter than the florets: spikelets terete-2-ranked, many-flowered: outer paleas bifid, awned below the tip; inner one pectinate-ciliate, sub-conduplicate. (chess, broom-grass.) *S.*

Arrhenatherum. Glumes membranaceous, 2-flowered, rather shorter than the florets; lower florets bearing anthers, lower valve 2-cleft, awned below the middle: upper floret perfect, lower valve cleft, unarmed, or with a short awn below the tip.

Avena. Glumes 2; 2, 3, or many-flowered: paleas mostly bearded at the base, lower one torn, with a twisted awn on the back: glumes membranaceous, and somewhat folicle-like: seed coated. (oats.) *S.*

Aira. Spikelets slender: calyx longer than the florets, glossy, 2-valved, 2 or 3-flowered: paleas 2, lower valve gnawed or toothed, awned on the back below the middle. (hair-grass.) *S.*

D. *Flowers in spikes.*

Lolium. Spikelets sessile; to the lowest a glume of 1 valve, to the uppermost of 2 opposite valves: lower palea with a bristle, or mucronate point, at the end: upper is membranous, bifid-toothed: scales with 2 unequal teeth: seed furrowed: spike compound. (darnel-grass.)

Eleusine. Glumes awnless, keeled, 5 to 9-nerved, membranaceous, 4 to 6-flowered, obtuse, unequal: inflorescence an unilateral digitate spike: paleas 2, awnless, membranaceous, unequal; lower valve keeled, upper one concave on the back: seed triangular, transversely rugose. (dogtail-grass.) *S.*

Triticum. Glumes 2, many-flowered, shorter than the spikelet, nearly equal, beardless, or with one beard: paleas 2, one of them bearded from the end: seed inclosed in the paleas, generally. Agropyron is expunged, and the couch-grass restored to this genus. (wheat.)

Secale. Glumes 2, 2 or 3-flowered: spikelets sessile on the teeth of the rachis, with the terminal floret abortive: glumes subulate, opposite, shorter than the florets: lower palea long-awned. (rye.)

Elymus. Glumes in pairs, involucre-like, subulate: lower valve entire, mucronate, or with a short bristle at the tip: spikelets 2 or more at each joint of the rachis: 3 to 9-flowered. (lime-grass, wild rye.) *S.*

Melica. Glumes 2, unequal, colored, obtuse, 2 to 4-flowered, and as long as the florets; one or more of the upper florets abortive and incomplete: palea unarmed, membranaceous: scales connate, truncate, fimbriate: seed free. (melic-grass.) *S.*

Atheropogon. Spikes in unilateral racemes: glumes 2, membranaceous, 2-flowered; inferior valve bristle-form: perfect floret 2-valved: inferior valve 3-toothed, or 3-bristled; superior valved bifid: abortive floret pedicelled, 2-valved, 3-bristled. (hairy-beard.)

Southern.

Sesleria. Glumes 2 to 5-flowered: paleas 2, toothed at the tip: stigmas sub-glandular: flowers often purplish: base of the spike bracted or involucred. (moor-grass.)

Oxydenia. Spike panicled, filiform: spikelets 3 or 4 flowered, alternating on a 1-sided rachis: general glume permanent, 2-valved, [illegible] subulate, 1-nerved, longer than the florets; paleas 2, smooth, [illegible], [illegible] without awns: seed roundish, naked, smooth, somewhat gibbous.

Chloris. Spikes digitate, one-sided: calyx 2-valved, 2 to 4-flowered; valves keeled. Flowers dissimilar, and the abortive florets pedicelled.

Aegilops. Glumes lateral, 2, mostly 3-flowered; valves coriaceous, broad, with many rigid diverging awns: paleas 2, outer valve 2 or 3-awned: spikes with the intermediate ones barren, lateral ones perfect, sessile.

E. *Flowers polygamous.*

(In panicles.)

Panicum. Glumes 2, 2-flowered; the lower glume generally very small, and differing in texture from the other: the lower florets abortive, 1 or 2-valved: the lower valve resembling the glumes, the upper one membranaceous: perfect floret with cartilaginous valves, unarmed. (cockfoot-grass, panic-grass.) *S.*

Hierochloa. Glumes 2, 3-flowered, scarious: lateral florets staminate, central ones perfect and diandrous, rarely triandrous.

Holcus. Glumes 2-flowered, membranaceous, boat-form, mucronate: panicle compact: lower florets perfect, sessile, unarmed; upper ones staminate or neutral, pedicelled, awned near the middle of the back.

(In spikes.)

Pennisetum. Setaria. Inflorescence a compound cylindrical spike; spikelets 2 flowered, invested with an involucre of 2 or more bristles: glumes 2, unequal, herbaceous: superior florets perfect, paleas cartilaginous. (bristled panic.)

Digitaria. Glumes 1 or 2, 2-flowered; the outer valve very small, or none; the inmost of the length of the paleas, 2, oblong-ovate, awnless paleas: style very long; spikes digitate, unilateral, linear: spikelets on short bifid pedicels, in pairs, lower floret perfect, with coriaceous valves. (finger-grass.) *S.*

Andropogon. Spikelets in pairs, involucred; the lower one staminate or neutral, on a bearded pedicel: glumes and paleas often very minute, or wanting: upper spikelets sessile, 1-flowered, perfect; glumes sub-coriaceous; paleas 2, shorter than the glumes, membranaceous, lower valve generally awned. (beard-grass.) *S.*

Hordeum. Spikelets 3 at each joint of the rachis, 1 or 2-flowered, all perfect, or the lateral ones abortive: glume lateral, subulate: perfect flower with 2 paleas, lower valve ending in a bristle: seed coated. (barley.)

Southern.

Monocera. Flowers in 2 rows on one side of the rachis: glumes 3, many-flowered; valves awned below the tip. Perfect flowers have 2 paleas, unequal; the outer valve awned below the tip. Neutral flowers have 2 awnless paleas.

Manisuris. Perfect flowers mixed with the staminate, glume 1-flowered, valves 2, unequal; outer one coriaceous, roundish, emarginate on one side of the base: paleas 2, smaller, included in the glume. Staminate and neutral have the glume uniform or regular.

Lepturus. Rachis articulated, filiform: articulations single-flowered: glume growing to the rachis, 1 or 2-valved: valves simple or 2-parted.

Rotbollia. Rachis fragile, articulated, cylindric, often filiform; articulations 2-flowered or more: glumes lance-ovate, flat, 1 or 2-valved: paleas 2, smaller.

Pleuraphis. Central spikelets perfect, with glumes 1-flowered, wedge-obovate, 2-cleft, 5-bristled: lateral spikelets staminate; glume 2-flowered, with one valve bristled near the base.

* Stellaria, Anthoxanthum, Oryzopsis.

ORDER III. TRIGYNIA.

Mollugo. Calyx 5-sepalled,, inferior, colored inside: corol 0: capsule 3-celled, 3-valved, many-seeded. Stamens 3 to 5. (carpet-weed.) *S.*

Montia. Calyx 2—3-sepalled: petals 5, sub-connate at the base, 3 a little smallest: stamens on the claws of the petals, mostly before the three smaller ones: styles short, reflexed: capsule 1-celled, 3-valved, 3-seeded. Scarcely distinguished from Claytonia.

Lechea. Calyx 3-sepalled: petals 3, linear: stigmas 3, plumose: capsule 3-celled, 3-valved, with 3 inner valvelets: seed 1. (pinweed.) *S.*

Proserpinaca. Calyx 3-parted, superior, permanent: corol 0: nut bony, 3-sided, 3-celled, crowned by the calyx. (mermaid-weed.) *S.*

Southern.

Polycarpon. Calyx 5-sepalled: petals 5, very short, emarginate, permanent: capsule ovate, 1-celled, 3-valved.

*Zanthoxylon, Stellaria, Eriocaulon, Queria or Anychia, Stellaria (Holosteum).

Order IV.

Southern.

Pellimia. Sepals 4; petals 2, small, membranaceous, linear oblong; capsule depressed, globose, 1-celled, somewhat 4-lobed, opening by a quadrangular cleft at the summit; stigma sessile, seeds numerous very shining.

CLASS IV. TETRANDRIA.

Order I. Monogynia.

A. *Flowers superior.*

(*1-petalled.*)

Cephalanthus. Inflorescence in a head: general calyx none: proper calyx superior, minute, angular, 4-cleft: corol funnel-form: receptacle globular, hairy: capsules 2 to 4-partible: seed solitary, oblong. (button-bush.) *S.*

Dipsacus. Common calyx involucre-like, many-sepalled: proper calyx 1-sepalled, superior: receptacle chaffy: corol tubular, 4-cleft: nut 1, crowned with a wineglass-form egret: inflorescence an ovate head. (teasel.)

Galium. Calyx 4-toothed: corol flat, 4-cleft: fruit dry; nuts 2, roundish: (leaves stellate.) (bedstraw.) *S.*

Spermacoce. Calyx 4-toothed: corol funnel-form, 4-cleft: capsule 2-celled: seeds, 2, 2-toothed. *S.*

Diodia. Calyx 2-cleft: corol tubular, funnel-form, 4-cleft: capsule 2-celled, 1-seeded. *S.*

Hedyotis. Oldenlandia. Calyx 4-toothed or 4-parted: corol funnel-form, 4-cleft, or 4-petalled: capsule 2-celled, many-seeded: receptacle adnate to the partition. *S.*

Anotis. Calyx an obovate tube, 4-toothed: corol salver-form with a 4-lobed limb, throat sub-glabrous: stigma sub-2-lobed: capsule 1-celled, and 4 to 8-seeded, seeds ovate sub-angled.

Houstonia. Calyx half superior, 4-toothed or 4-parted: corol salver-form, 4 cleft: capsule 2-celled, many seeded, opening transversely. (venus pride.) *S.*

Mitchella. Calyx 4-toothed: corols 2 on each germ, tubular, limb 4-parted, spreading, villose inside: stamens scarcely exsert: berry double, 4-seeded: stigmas 4 or 4-cleft. (partridge berry, checker berry.) *S.*

Linnæa. Calyx with the tube ovate: limb 5-parted, segments lanceolate-subulate: corol turbinate, sub-campanulate, 5-lobed: stamens 4, sub-didynamous, included: stigma globose; berry dry, small, globe-ovate, 3-celled, one cell only bearing perfect seed. (twin flower.)

Exotic.

Scabiosa. Common calyx many-sepalled; proper one double, superior: receptacle chaffy or naked. (Flowers aggregate.) (scabious.)

Southern.

Polypremum. Calyx 4-parted: corol 4-cleft, wheel-form, bearded at the orifice: stamens included: capsule compressed, 2-celled, many-seeded.

Allionia. Common calyx oblong, simple, 3-flowered: proper calyx obsolete: corol irregular: receptacle naked.

Rubia. Calyx 4-toothed: corol 4 or 5-cleft, bell-form: berries 2, one-seeded, (stamens 4-5; leaves stellate.) (madder.)

(*4-petalled.*)

Cornus. Calyx 4-toothed: drupe with a 2-celled nut. Some species have a 4-leaved involucre. (dogwood, false box.) *S.*

Ludwigia. Calyx 4-parted, the divisions long, permanent: capsule 4-cornered, 4-celled, perforated at the top, many-seeded—(petals sometimes wanting.) (seed box.) *S.*

(Apetalous.)

Isnardia. Calyx bell-form, 4 parted or 4-cleft, superior: capsule 4-celled, 4-cornered, many-seeded, surrounded by the calyx. (water purslane.)

Southern.

Elæagnus. Calyx 4-cleft, bell-form, colored within: stamens alternating with the divisions of the calyx (corol?) anthers sub-sessile: style short: drupe dry, 1-seeded, marked with 8 furrows.

B. *Flowers inferior.*

(1-petalled.)

Plantago. Calyx 4-cleft: corol 4-cleft, reflexed: capsule 2-celled, opening transversely: stamens exsert, very long. (plantain, ribwort.) *S.*

Sanguisorba. Calyx 2-sepalled: corol 4-cleft, wheel-form, adhering to the germ so as to appear as if superior; capsule 4-sided. (burnet saxifrage.) *S.*

Centaurella. Bartonia. Calyx 4-parted, close pressed, permanent: corol 4-cleft or 4-parted, bell-form, permanent: stigma thick, glandulous, sub-bifid: capsule 1-celled, 2-valved, many-seeded. (screw-stem.) I regret that I am compelled by superior authority to substitute Centaurella for Bartonia, contrary to all rules for generic names.

Exacum. Calyx deeply 4-parted: corol 4-cleft: tube globose; capsule 2-furrowed, 2-celled, many-seeded, opening at the top; cells 2-seeded.

Swertia. Calyx flat, 4 or 5-parted: corol 4-parted, wheel-form, with nectariferous pores at the base of the divisions: germ tapering to a point: style short, terminating in 2 stigmas: capsule 1-celled, 2-valved, acuminate. (false gentian.)

Frasera. Calyx deeply 4-parted: corol 4-parted, spreading: segments with bearded glands in the middle: capsule compressed, sub-margined, 1-celled, 2-valved; seeds few, imbricated, oval, with a membranaceous margin. (pyramid flower.) *S.*

Southern.

Lycium. Corol tubular, having the throat closed by the beards of the filaments: stamens often 5; berry 2-celled, many-seeded. (matrimony.)

Centunculus. Calyx 4-cleft: coral 4-lobed, tubular, permanent, border spreading: stamens short, naked: capsule 1-celled, dividing into 2 hemispheres, many-seeded.

Callicarpa. Calyx 4-cleft: corol tubular, border 4-cleft: stamens exsert: berry 4-seeded.

(4-petalled.)

Ammannia. Calyx bell-tubular, plaited, 8-toothed: petals 4, or none, on the calyx: capsule 4-celled, many-seeded—(sometimes 2-celled and 8-stamened.) (tooth-cup.) *S.*

Ptelea. Calyx 4-parted: petals 4, spreading: stigmas 2: samara compressed, orbicular, 2-celled, 2-seeded. *S.*

Southern.

Krameria. Calyx none: corol 4 or 5-petalled: nectary 4-leaved, two-shaped: anthers perforated: drupe prickly.

(Apetalous.)

Rivinia. Calyx 4-parted permanent; berry 1-seeded; seeds lentiform, scabrous: stamens 8, 4, 12.

Alchemilla. Calyx 8-cleft: segments spreading, alternately smaller: style lateral from the base of the germ: fruit surrounded by the calyx. (lady's mantle.)

Ictodes. Symplocarpus. Pothos. General calyx a spathe; spadix simple, covered with flowers: perianth corol-like deeply 4-parted, permanent, becoming thick and spongy: style pyramid-form, 4-sided: stigma simple, minute: berries globose, 2-seeded, inclosed in the spongy spadix-receptacle. (skunk-cabbage.)

Southern.

Camphorosma. Calyx pitcher-form, 4-parted, segments alternately larger: stamens exsert; style 2-cleft: capsule 1-seeded, covered by the calyx.

*Convallaria, Cardamine, Prinos, Calymenia, Euonymus.

Order II. Digynia.

Hamamelis. Involucre 3-leaved: perianth 4-sepalled or 4-cleft: petals 4, very long, linear: nut 2-celled, 2-horned (witch hazel.) Flowers in autumn, and perfects its seed the following spring. *S.*

Southern.

Aphanes. Calyx 2-cleft, alternate; segments minute: petals none: stamens minute: styles 2: seeds 2, covered by the converging calyx, one of them often abortive. Stamens 1, 2, and 4.

*Sanguisorba, Cuscuta, Swertia, Oldenlandia, Gentiana, Morus, Juglans, Thuja, Galium, Cuscuta.

Order IV. Tetragynia.

Ilex. Calyx minute, 4 or 5-toothed: corol 4-parted, wheel-form: style 0: stigmas 4: berry 4-celled, cells 1-seeded. (holly.)

Nemopanthes, R. Flowers abortively dioecious or polygamous: calyx scarcely conspicuous: petals 5, distinct, linear-oblong, caducous: germs hemispheric, covered with a viscous juice: style none: stigmas 4: berry 4-celled, 1-seeded. Professor Dewey defines this genus—Calyx none, or ideally conspicuous: petals 4, lanceolate, sub-acute: stigmas sessile: pericarp 4-celled, 1-seeded: stamens 3 to 5; stigmas 3 to 5. This description was written long before that of R.

Sagina. Calyx 4-sepalled: petals 4, often caducous: capsules 4-celled, 4-valved, many-seeded. (pearl-wort.) *S.*

Tillaea. Calyx 3 or 4-parted: petals 3 or 4, equal: carpals 3 or 4, two or many-seeded. Sometimes there are 4 barren stamens. (pigmy-weed.)

Potamogeton. Calyx (or green corol) 4-sepalled: petals 0: style 0: anthers sessile, alternating with the divisions: nuts 4, 1-seeded, sessile: seeds 4. (pond-weed.) *S.*

Ruppia. Calyx 0: corol 0: seeds 4, pedicelled.

Southern.

Myginda. Calyx small, 4-parted: corol 4-petalled or deeply 4-parted; stigmas 2 or 4: drupe globose, 1 seeded.

*Proserpinaca, Myriophyllum.

CLASS V. PENTANDRIA.

Order I. Monogynia.

A. *Flowers 1-petalled, inferior; seed-like nuts* naked in the bottom of the calyx.*

Rough-leaved plants.

Pulmonaria. Calyx prismatic, 5-angled: corol funnel-form, with an open throat: stigma emarginate: nuts roundish, obtuse, not perforated at the base. (Whole plant smooth in this country, though rough-leaved in Europe.) (lung-wort.) *S.*

Lithospermum. Calyx 5-parted, with acute keeled divisions: corol funnel-form, with an open throat, border 5-lobed: stigma 2-cleft: nuts ovate, pointed, stony, not perforated: stamens and pistils inclosed in the tube of the corol. (stone-seed or gromwell.) *S.*

Onosmodium. Calyx deeply 5-parted, segments linear: coral oblong, somewhat bell-form, with the acute divisions converging, the upper part of the corol being ventricose and half 5-cleft, throat open: anthers sessile, enclosed: styles exsert, nuts not perforated at the base. (Spikes revolute.) (false gromwell.) *S.*

Echium. Calyx 5-parted, segments subulate, erect: corol bell-form, obliquely and unequally 5-lobed; tube short; throat naked; stigma cleft: nuts tubercled, not perforated at the base. (viper's bugloss.)

Myosotis. Calyx half 5-cleft or 5-cleft: corol salver-form, curved, 5-cleft, vaulted, the lobes slightly emarginate; throat closed with 5 convex converging scales: nuts smooth or echinate.. (scorpion-grass.)

Lycopsis. Calyx 5-cleft: corol funnel-form; throat closed with ovate converging scales: nuts perforated at the base.

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*As the seeds of these plants have stigmas at their apexes, they are, according to modern physiologists, not entitled to the name of seed.

Batschia. Calyx about 5-cleft: corol salver-form, with a straight tube longer than the calyx; having a bearded ring within at the base; throat naked, or partly closed, with rounded divisions: nuts hard and shining. (false bugloss.) *S.*

Cynoglossum. Calyx 5-parted: corol short, funnel-form, vaulted; throat closed by 5 converging convex processes: nuts depressed, affixed laterally to the style. (hound-tongue.) *S.*

Rochelia. Calyx 5-parted: corol salver-form, throat closed with converging scales: nuts prickly, compressed, affixed latterly to the style.

Exotic.

Borago. Corol wheel-form, segments acute; the throat closed with rays: filaments conniving: nuts rounded, closed at the base, rugose, inserted into an excavated base. (borage.)

Anchusa. Calyx 5-parted: corol funnel-form, vaulted; throat closed: nuts marked at the base, and their surface generally veined. (bugloss.)

Symphitum. Limb, or upper part of the corol, tubular-swelling; the throat closed with the subulate rays: stigma simple: nuts gibbous, not pierced at the base. (comfrey.)

Southern.

Heliotropium. Calyx tubular, 5-toothed: corol salver-form, 5-cleft, with teeth or folds between the divisions; throat open. (Spikes recurved, involute.) (turnsol.)

B. *Flowers 1-petalled, inferior.*

(Capsule 1-celled.)

Anagallis. Calyx 5-parted: corol wheel-form, deeply 5-lobed: capsule opening transversely, globose, many-seeded: stamens hairy. (scarlet pimpernel.) *S.*

Lysimachia. Calyx 5-cleft or 5-parted: corol wheel-form, 5-cleft: capsule 1-celled; globular, 5 or 10-valved, mucronate: stigma obtuse: (In some species the filaments are united at the base.) (loose-strife.) *S.*

Primula. Umbellets involucred: calyx tubular, 5-toothed: corol salver-form, 5-lobed; tube cylindric: throat open; divisions of corol emarginate: capsule 1-celled with a 10-cleft mouth: stigma globular. (primrose-cowslip.)

Dodecatheon. Calyx 5-cleft: corol wheel-form, 5 parted, reflexed: capsule oblong, 1-celled, opening at the apex: stamens on the inside of the tube short; anthers converging: stigma obtuse. (false-cowslip.)

Menyanthes. Calyx 5-parted: corol hairy, funnel-form, 5-lobed, equal and spreading: capsule ovate, 1-celled. 2-valved, with the seeds attached to the valves: stigma 2-cleft, capitate. (buck bean.)

Villarsia. Capsule 1-celled, 1 or 2-valved, many-seeded: corol wheel-form, 5-lobed; divisions bearded at the base; margin inflexed, having 5 glandular nectaries, alternating with the stamens: stigma 2-lobed. (spur-stem, heart water-shield.) *S.*

Hottonia. Calyx 5-parted: corol salver-form, 5-lobed: stamens on the tube of the corol: stigma globular: capsule 1-celled, globose, acuminate. (feather leaf.) *S.*

Samolus. Calyx 5-cleft, half superior, permanent: corol salver-form, 5-lobed, with 5 intermediate scales fencing up the stamens between them: capsule 1-celled, 5-toothed, many-seeded. (brookweed.) *S.*

Sabbatia. Calyx 5 to 12-parted: corol wheel-form, 5 to 12-parted: stigmas 2, spiral or coiled: anthers becoming revolute: capsule 2-valved, many-seeded. (centaury.) *S.*

Hydrophyllum. Calyx 5-parted: corol bell-form, 5-cleft with 5 margined, longitudinal. honey bearing grooves inside: capsule globose, 2-valved: stamens exsert: filaments bearded in the middle: stigma 2 cleft. (water-leaf, burr-flower.) *S.*

Nemophila. Calyx 10-parted, alternate lobes reflexed: corol sub-campanulate, 5-lobed: the lobes emarginate, with margined nectariferous cavities at the base: stamens 5, shorter than the corol, filaments naked: style 2-cleft; capsule fleshy, 1-celled, 2-valved, 4-seeded. Germ 1-celled, with two wall-like partitions, each bearing two distinct germs or capsules; capsule 1-celled, with fleshy masses fixed to a longitudinal axis, bearing the seeds on their inner surface.

Southern.

Ellisia. Calyx deeply 5-parted: corol smaller, funnel-form, 5-cleft, naked within: stamens not exsert; filaments smooth; anthers roundish: stigma 2-cleft: capsule 2-celled, 2-valved, 2-seeded; seeds punctate. Capsule on the spreading calyx.

Androsace. Flowers in an involucred umbel: calyx 5-cleft, permanent: corol salver-form, 5-lobed, tube ovate, orifices glandular: capsule 1-celled, globe-ovate, 5-valved, many-seeded.

(Capsule 2-celled—rarely 3-celled.)

Phacelia. Calyx 5-parted: corol somewhat bell-form, 3-cleft, with 5 margined, longitudinal, honey-bearing grooves inside: styles filiform; stigmas 2: stamens exsert: capsule 2-celled, 2-valved, 4-seeded; with partitions attached to the middle of the valves. *S.*

Spigelia. Calyx 5-parted: corol funnel-form; border equally 5-cleft: anthers converging: capsule twinned, 2-celled, 4-valved, many seeded. *S.*

Verbascum. Calyx 5-parted: corol wheel-form, 5-lobed, somewhat irregular: stamens declined, hairy: capsules 2-celled, 2-valved; valves inflexed when ripened, many-seeded. (mullein.) *S.*

Convolvulus. Calyx 5-parted, with or without 2 bracts: corol funnel-form, plaited: stigma 2-cleft or double: cells of the capsule 2 or 3; each 1 or 2-seeded. (bind-weed.) *S.*

Ipomæa. Calyx 5-cleft, naked: corol funnel-form or bell-form, with 5-folds: stigma globe-headed, papillose: capsule 2 or 3-celled, many-seeded. (cypress vine, morning glory.) *S.*

Exotic.

Hyoscyamus. Calyx tubular, 5-cleft: corol funnel-form, 5-lobed, obtuse irregular: stamens inclined: capsule 2-celled, covered with a lid. (henbane.)

Southern.

Nicotiana. Calyx urceolate, sub-tubular, 5-cleft: corol funnel-form, 5-cleft, limb plaited: stigma notched, capitate: stamens inclined: capsules 2-celled, 2 to 4-valved. (tobacco.)

Ophiorhiza. Calyx 5-cleft: corol 5-cleft, funnel-form: germ 2-cleft: stigmas 2: capsule mitre-form, 2-lobed, 2-celled, many-seeded.

Bumelia. Calyx 5-parted: corol salver-form, deeply 5-parted: nectary (inner corol) 5-leaved: drupe 1-seeded.

Lisianthus. Corol tubular, ventricose; divisions recurved: calyx bell-form, keeled: stigma in a 2-lobed head: capsule 2-celled, 2-furrowed, 2-valved: seeds numerous, sub-imbricate, surrounded with a very small membranaceous margin.

(Capsule 3 to 5-celled.)

Phlox. Calyx prismatic, 5-cleft or 5-parted; segments converging: corol salver-form, 5-lobed, with a tube somewhat curved: filaments unequal in length, attached to the inside of the tube of the corol: stigmas 3-cleft: cells 1-seeded, seeds oblong, concave. (lichnedia.) *S.*

Polemonium. Calyx bell-form, half 5 cleft: corol bell-wheel-form, 4 or 5-lobed, erect: stamens bearded at the base, on 5 valves, closing the bottom of the tube: stigma 3 cleft: capsule roundish, 3-celled, many-seeded: valves membrano-crustaceous: seeds oblong, sub-triangular. (Greek valerian, false Jacob's ladder.) *S.*

Diapensia. Calyx deeply 5-parted at the base, imbricated with 3 leaflets: corol salver-form: limb flat, 5-cleft: stamens compressed, crowning the tube of the corol; stigmas 3: capsules 3-celled, 3-valved, many-seeded. (mountain-box.) *S.*

Datura. Calyx tubular, angled, caducous, with a permanent orbicular base: corol funnel-form, plaited: capsule 4-valved, 2-celled, and each cell half divided: generally thorny. (thorn-apple.) *S.*

Azalea. Calyx 5-parted; corol tubular, half 5-cleft, somewhat oblique: stamens on the receptacle, declined; stigma declined, obtuse, usually ending with 5 short papillæ: capsule 5-celled, 5-valved, opening at the top. (wild honeysuckle.) *S.*

Exotic.

Vinca. Corol salver-form, twisted, border 5-cleft, with divisions oblique, throat 5-angled: seed oblong: capsule follicle-like, erect, narrow: 2 glands at the base of the ovary.

Southern.

Collomia. Calyx wineglass-form, large, 5-cleft, acute: corol funnel-form, with 5 short oval-oblong lobes: tube straight, long, slender: capsule 3-cornered, 3-celled, with 3 obcordate valves; seed oblong, angular, with a mucilaginous covering.

Cantua. Ipomeria. Calyx 3 to 5-cleft: corol funnel-form: stigma 3-cleft: capsule superior, 3-celled, 3-valved, many-seeded; seeds winged.

(Seed in a berry.)

Physalis. Calyx 5-toothed: corol bell or wheel-form; tube with 5 concave impressions: anthers converging: berries 2-celled, contained in an inflated calyx: seeds numerous. (winter cherry.) *S.*

Solanum. Calyx 5 to 10-parted, permanent: corol bell or wheel-form, 5-lobed, plaited: anthers thickened, partly united, with two pores at the top; berry containing many seeds, 2 to 6-celled. (potatoe, nightshade, bitter-sweet.) *S.*

Nicandra. Calyx 5-parted, 5-angled, the angles compressed, segments sagittate: corol bell-form: stamens incurved: berry 3 to 5-celled, covered by the calyx.

Exotic.

Atropa. Corol bell-form: stamens distant: berry globular, 2-celled, sitting on the calyx. (deadly nightshade.)

Capsicum. Corol wheel-form: berry juiceless, inflated: anthers converging: calyx angular. (red pepper.)

Southern.

Androcera. (Solanum.) Calyx inflated, 5-cleft, caducous: corol sub-ringent, wheel-form, 5-cleft: stamens unconnected, unequal, declined, one larger and horn-form; anther with 2 terminal pores: style simple, declined: stigma not distinct: berry dry; seed without margins, rugose.

C. *Flowers 1-petalled, superior.*

(Seeds in a capsule.)

Campanula. Calyx mostly 5-cleft: corol bell-form, or wheel-form, closed at the bottom by valves bearing the flattened stamens: stigma 3 to 5-cleft: capsules 3 to 5-celled, opening by lateral pores. (bell-flower.) *S.*

Specularia. Calyx 5-lobed, tube elongated prismatic or long-obconic: corol wheel-form, 5-lobed: filaments membranaceous, pilose, shorter than the anthers: style inclosed, pilose; stigmas 3, filiform: capsule long-prismatic, 3-celled, 3-valved.

Clintonia. Calyx superior, 5-sepalled, sub-equal: corol 2-lipped, lower lip wedge-form, 3-lobed, upper one erect, 2-parted; stamens in the tube, connate incurved; anthers connate, two bristle-bearing at the apex: germ silique-form, triangular, contorted, 1-celled: capsule dry, many-seeded.

Lobelia. Calyx 5-cleft: corol irregular, often irregularly slitted: anthers cohering, and somewhat curved: stigma 2-lobed: capsule 2 or 3-celled. (cardinal flower, wild tobacco.) *S.*

Diervilla. Calyx oblong, 5-cleft, with 2 bracts: corol 5-cleft, twice as long as the calyx, funnel-form: border 5-cleft, spreading: stigma capitate: capsule oblong, 4-celled, naked, many-seeded. (bush honeysuckle.) *S.*

Southern.

Pinckneya. Calyx 5-parted, 1 or 2 of the divisions large, bract-like: corol long, tubular; border re-curved: stamens exsert: capsule roundish, 2 or 4-valved, with contrary partitions: seed winged.

Chiococca. Calyx 5-toothed: corol funnel-form, equal: berry compressed, twinned, 2-seeded: seed oblong, compressed.

Psychotria. Tube of the calyx ovate, crowned: limb short, 5-lobed, 5-toothed or sub-entire: corol funnel-form, short, 5-cleft; throat bearded: stigma 2-cleft: berry drupe-like.

(Seeds in a berry.)

Lonicera. Caprifolium. Calyx 5-toothed: corol tubular, long 5-cleft, unequal: stamens exsert: stigmas globose: berry 2 or 3-celled, distinct; seeds many. (trumpet honeysuckle.) *S.*

Xylosteum. Calyx 5-toothed with 2 connate bracts: corol tubular; border 5 parted, nearly equal: berries in pairs, united at their bases, or combined in one; 2-celled. (fly honeysuckle, twin-berry.)

Symphoricarpus. Calyx globose, tubular; limb small 4 or 5-toothed: corol funnel-form sub-equal 4 or 5-lobed: stamens a little exsert: stigma half-globose: germ adnate, 4-celled; berry crowned with the calyx.

Symphoria. Calyx small, 4-toothed, 2-bracted at the base: corol tubular, short, 5-cleft, sub-equal: stigma globose; berry ovate, small, crowned with the permanent calyx, 4-celled, 4-seeded; (sometimes two of the cells are abortive.) *S.*

Triosteum. Calyx permanent, of the length of the corol, 5-cleft, with linear divisions: corol tubular, 5-lobed, sub-equal, gibbous at the base: stigma capitate, sub-5-lobed: berry 3-celled, 3-seeded. (feverwort, horse ginseng.) *S.*

Exotic.

Mirabilis. Corol funnel-form, coarctate (compressed or narrowed) below: calyx inferior: germ between the calyx and corol: stigma globular. (four o'clock.)

D. *Flowers 5-petalled, inferior.*

(Seed in a capsule.)

Itea. Calyx 5-cleft, minute, bearing the 4 long linear reflexed petals: stigma capitate, 2-lobed: capsule 2-celled, 2-valved, many-seeded; the valves bearing the seeds, and having inflexed margins. *S.*

Impatiens. Calyx 2-sepalled, deciduous; corol irregular, spurred: anthers cohering at the top: capsule 5-valved, bursting elastically when ripe. (touch-me-not, jewel-weed.) *S.*

Viola. Calyx 5-sepalled or deeply 5-cleft: corol irregular, with a horn behind: (sometimes the horn is wanting or a mere prominence) anthers attached by a membranous tip, or slightly cohering: capsule 1-celled, 3-valved. (violet.) *S.*

Ionidium. Ionia. (from Viola.) Calyx 5-sepalled, with bases extended: corol somewhat 2-lipped, not spurred: stigma simple: capsule 1-celled, 3-valved; seeds on the middle valve.

Claytonia. Sepals 2, or calyx 2-parted, the leaves valve-like: corol 5-petalled, emarginate: stigma 3-cleft; capsule 1-celled, 3-valved, 3 to 5-seeded. (spring beauty.) *S.*

Ceanothus. Petals scale-like, vaulted: claws long, standing in the 5-cleft, cup-form calyx: stigmas 3: berry or capsule dry, 3-grained, 3-celled, 3-seeded, 3-parted, opening on the inner side. (New Jersey tea.) *S.*

Euonymus. Calyx 5-parted or 5-cleft, flat: corol flat, inserted on the outer margin of a glandular disk: capsule 5-angled, 5-celled, 5-valved, colored; cells 2-lobed; seeds calyptred or arilled. (spindle tree.) *S.*

Celastrus. Calyx 5-lobed, flat: corol spreading; capsule obtusely 3-angled, 3-celled, berry-like; valves bearing the partitions on their centres: cells 1 or 2-seeded; stamens standing around a glandular 5-toothed disk: style thick: stigma 3-cleft; seeds calyptred or arilled. (staff tree, false bittersweet.)

Exotic.

Gomphrena. Sepals 5, colored, outer 3 conniving, keeled: petals 5, villose: nectary cylindric, 5-toothed: capsule opening transversely, 1-seeded: style semi-bifid. (bachelor's buttons.)

Southern.

Cyrilla. Calyx minute, sub-turbinate, 5-parted: petals 5, stellate: stigmas 2 or 3: capsule 2-celled, 2-seeded, not opening; seed ovate, attached to the summit of a columella by a filament.

Pickeringa. Calyx small, 5-parted, inferior: petals 5: anthers sagittate: style simple: capsule 1-celled, sub-globose, many-seeded.

Galax. Erythrorhiza. Solandra. Calyx 5-parted, permanent: corol twice as long as the calyx, 5-petalled, affixed to the base of the stamens; anther-bearing tube 10-cleft, the 5 shorter segments bearing the anthers: stigma 3-lobed: capsule 3-celled, 3-valved; seeds many, affixed to the columella.

(Seed in a berry.)

Rhamnus. Calyx cup-form, 4 to 5-cleft: corol consists of scales fencing in, or opposite to, the stamens, and inserted on the calyx, (sometimes wanting:) stigma 2 or 4-cleft; berry 3 or 4-seeded, (sometimes polygamous or diœcious.) (buck-thorn, dwarf alder.) *S.*

Vitis. Calyx 5-toothed, minute: petals cohering at the tip, hood-like, withering: styles 0: stigma obtuse, capitate: berry 5-seeded, globular, seeds sub-cordate. Often diœcious. (grape vine.) *S.*

AMPELOPSIS. CISSUS. Calyx minute, 4 or 5-toothed: petals reflexed, spreading, 4 or 5, unconnected above, calyx-like, caducous: germs surrounded with a glandular disk; berry 2-celled, 2 to 4-seeded. (false grape, creeper.) *S.*

STYPHONIA. Sepals 7 to 9, with bracteoles at the base: petals 5, oblong, slightly unguiculate, of the same texture as the sepals, pubescent within near the base: style short, stigma minute, 3-lobed: fruit a dry flattened drupe; nut compressed, long, 1-celled, 1-seeded.

E. *Flowers 5-petalled, superior.*

RIBES. Calyx bell-form, 5-cleft, sometimes flat: corol and stamens inserted on the calyx: style 2-cleft; berry many-seeded. (currant, gooseberry.) *S.*

Exotic.

HEDERA. Petals oblong: berry 5-seeded, surrounded by the calyx: style simple. (European ivy.)

F. *Corols wanting.*

THESIUM. COMANDRA. Calyx superior, half 5-cleft, with petal-like edging attached to its margin: anthers adhering to the edging by means of filamentous tufts: nut or capsule 1-seeded, covered with the permanent calyx. (false toadflax.) *S.*

ANYCHIA. PARONYCHIA. QUERIA. Sepals 5, united at the base, slightly concave, sub-saccate at the apex, sub-mucronate on the back; petals none; stamens 2 to 5, inserted on the base of the sepals; styles very short, distinct or united at the base; utricle enclosed in the calyx; 1-seeded.

PARONYCHIA. Sepals 5, united at the base, persistent, cuspidate or rounded at the apex, cucullate or concave at the summit: petal 0: utricle 1-seeded, enclosed in the calyx.

SIPHONYCHIA. Sepals 5, linear, petaloid above, cohering into a tube below, slightly concave at the apex, unawned: nectaries 5: style filiform; minutely bifid at the apex: utricle 1-seeded, enclosed in the calyx.

GLAUX. Calyx inferior, bell-form, 5-lobed, colored: capsule globose, acuminate, 1-celled, 5-valved, 5-seeded, surrounded by the calyx: receptacle rounded and punctured. (sea milkwort.)

PETALANTHERA. Calyx superior, 10-parted: anthers arrow-form, inserted under the apex of petal-like filaments: style bears a sub-2-lobed stigma: capsule cylindrical, 1-celled, 1-seeded.

Exotic.

CELOSIA. Sepals 3, like a 5-petalled corol: stamens united at the base by a plaited nectary: capsule opening horizontally: style 2 or 3-cleft.

*Queria, Prinos, Polygonum, Ledum, Gentiana, Cassia, Passiflora, Lycium.

ORDER II. DYGYNIA.

A. *Corol 1-petalled, inferior.*

[Plants with *follicles* are removed to class *gynandria*, order *pentandria.*]

GENTIANA. Calyx 4 or 5-cleft: corol with a tubular base, bell-form, without pores, 4 or 5-cleft: stigmas 2, sub-sessile: capsule 1-celled, oblong; columellas 2, longitudinal: stamens but 4, when the divisions of corol are 4. (gentian.)

CUSCUTA. Calyx 4 or 5-cleft: corol 4 or 5-cleft, sub-campanulate, withering: capsule 2-celled, dividing transversely at the base; seeds binate: stamens sometimes 4. (dodder.)

Southern.

GELSEMINUM. Calyx 5-sepalled, very small: corol funnel-form, border spreading, 5-lobed, nearly equal: capsule compressed, flat, 2-partible, 2-celled: seeds flat, attached to the margins of the valves.

HYDROLEA. Calyx 5-parted: corol wheel-form or bell-form: anthers cordate, and their filaments cordate at the base: styles long, diverging; stigmas head-peltate: capsule 2-celled, 2-valved.

DICHONDRA. Calyx 5-parted; segments spatulate: corol short, bell-form, 5-parted: stigma head-peltate: capsule sub-compressed, twinned, 2-celled, 1-seeded; seeds globose.

Evolvulus. Calyx 5-parted, corol bell-wheel-form, with sub-emarginate lobes: styles 2, deeply 2-cleft, with diverging capillary divisions: stigma simple: capsule 2-celled, 4-valved, 2 to 4-seeded.

B. *Corol 5-petalled.*

Drummondia. Calyx obconic, tubular, adnate to the germ, the limb 5-cleft into triangular lobes, valve-like, and at length reflexed: petals 5, pinnatifid, alternating with the lobes of the calyx: stigmas 2, spreading, 2-lobed: capsule 1-celled, 2-valved at the apex, opening long before the seed is ripe.

Heuchera. Calyx inferior, 5-cleft: corol on the calyx; petals small: capsule 2-beaked, 2-celled, many-seeded. (alum-root.) *S.*

Panax. Polygamous. Umbelled. Involucre many-leafed: calyx 5-toothed in the perfect flower, superior: berry heart-form, 2 or 3-seeded: calyx, in the staminate flower, entire. (ginseng.)

C. *Corol wanting.*

Atriplex. Polygamous. Calyx 5-sepalled, or 5-parted, inferior: style 2-parted: seed 1, vertical; fruit depressed. Pistillate flowers are intermixed, in which the calyx is 2-sepalled or 2-parted. (orache.) *S.*

Chenopodium. Calyx 5-parted, obtusely 5-angled, inferior: style deeply 2-cleft: utricle thin, horizontal, invested by the calyx: seed 1, lens-like. (pigweed, oak of Jerusalem.) *S.*

Salsola. Perianth 5-cleft, permanent, enveloping the fruit with its base, and crowning it with its enlarged limb: styles 2: embryo spiral. (saltwort.) *S.*

Ulmus. Calyx bell-form, withering; border 4 to 5-cleft: seed 1, enclosed in a flat membranaceous samara. (Stamens vary from 4 to 8.) (elm.) *S.*

Celtis. Polygamous. Perfect flowers have the calyx 5-parted: styles thickish, spreading: drupe 1-seeded: staminate flowers beneath the perfect ones, with 6-parted calyxes: stamens often 6. (nettle-tree.) *S.*

Exotic.

Beta. Sepals 5: seed kidney-form, within the fleshy substance of the base of the calyx. (beet.)

Southern.

Kochia. Calyx inferior, bell-form, 5-cleft, forming a permanent band around the fruit, somewhat resembling 5 petals: corol none: styles short, stigmas 2 or 3, long simple: seed incurved.

Planera. Polygamous. Calyx membranaceous, sub-campanulate, 4 or 5-cleft: corol none: stigmas 2, oblong, glandular, recurved: capsule (nut) sub-globose, membranaceous, 1-celled, nut opening, smooth or scaly, 1-seeded, not winged.

D. *Plants which bear flowers in* UMBELS; *corols superior and 5-petalled: carpels two.*

(Carpels with 3 ribs, nearly equal.)

Hydrocotyle. Crantzia. Erigenia. Carpels 3-ribbed, flat; dorsal rib sometimes obsolete; joining sides flat, linear: germ sub-orbicular or reniform, compressed laterally; styles short: stigmas capitate: perianth none: petals entire, spreading: involucres various. (pennywort.) *S.*

Erigenia. Calyx with the margin obsolete; petals equal, entire, obovate, expanded: style permanent, subulate, very long: fruit oval, somewhat compressed: the half-fruit gibbously convex, 3 ribbed: joining edges narrow, flat, not edged with a margin.

Œnanthe. Carpels 3-ribbed, (rarely 5-ribbed;) styles permanent: germ oblong-ovate, corticate, solid; apex denticulate: perianth slenderly 5-toothed: petals of the disk, florets of the umbel, cordate-inflexed, sub-equal: those of the ray-florets large and deformed: general involucre mostly wanting. (water dropwort.)

Exotic.

Carum. Seeds oblong-ovate, striate: petals carinate, emarginate, inflexed: involucre about 1-leaved. (caraway.)

(Carpels prickly or hispid.)

Sanicula. Carpels hispid, with hooked prickles: calyx 5-parted, permanent: umbel sub-simple, capitate: involucre few-flowered. (sanicle.) *S.*

Eryngium. Fruit oval-oblong, with chaff-like scales, often hispid: calyx 5-parted permanent: petals oblong, inflexed at the apex and adnate at the base: flowers sessile, capitate, intermixed with chaff: involucre many-leaved, sub-spinous. (sea holly.) *S.*

Daucus. Carpels striate on their joining sides; outer sides convex, having hispid ribs; involucre pinnatifid; flowers sub-radiated, abortive in the disk. (carrot.) *S.*

Osmorhiza. Uraspermum. Calyx with the margin obsolete: petals ovate, scarcely emarginate with a very short inflexed point: fruit elongated, alternate at the base, acute-angled, in the transverse section roundish: carpels with hispid angles and 5 obtuse ribs; commissure sub-flat: general involucre 2 or 3-leaved; partial ones 5-leaved: the flowers all white with the central ones barren, and the outer ones fertile, (sweet-cicely.) This genus has run the round of Uraspermum, Myrrhis, Chaerophyllum, and Scandix.

Chaerophyllum. Uraspermum. Calyx with the margin obsolete: petals obovate, emarginate, inflexed: fruit not beaked, laterally compressed: carpels with 5-obtuse, equal ribs—lateral ribs margined: general involucre few-leaved; partial one many-leaved: flowers white or reddish.

(Carpels with 5 *ribs, nearly equal, or none.)*

Cicuta. Carpels gibbous-convex: ribs 5, obtuse, converging, with intervening tuberculate grooves and prominences: joining sides flat; germ sub-globose, corticate, compressed laterally: calyx obsolete, 5-toothed: petals cordate inflexed; partial involucres 5 or 6-leaved, or wanting. (water hemlock.) *S.*

Conium. Carpels 5-ribbed: ribs at first crenate with flat intervals between them; germ ovate, gibbous: perianth entire: petals unequal, cordate, inflexed: general involucre about 3 to 5-leaved; partial ones mostly 3-leaved, unilateral. (poison hemlock.)

Eulophus. Calyx 5-toothed at the margin, deciduous: fruit subcontracted at the side, ribs somewhat prominent: joining edges bearing 4 similar marginal wings: carpels crescent-like, plant glabrous; umbel 10-rayed.

Zizia. Margin of the calyx obsolete or very short-5-toothed: petals oval, tapering into a long point: fruit contracted from the side, roundish or oval; carpels terete-convex, a little flattish before. Flowers yellow.

In the Umbelliferæ exotics are not designated.

Apium. Carpels convex externally: ribs 5, small, a little prominent: germ sub-globose: perianth entire; petals equal, roundish, inflexed at the apex; involucre 1 to 3-leaved or wanting. (celery, parsley.)

Helosciadium. Calyx with a margin 5-toothed or obsolete: petals ovate, entire: styles short: fruit compressed at the side, ovate or oblong, with lateral margins; carpels gibbosely or teretely convex, flattish before. Flowers white.

Discopleura. Calyx with 5 subulate permanent teeth; petals ovate, entire, folded a little at the apex: fruit ovate, often paired: ribs always five: dorsal 3 filiform, exsert, sub-acute; 2 laterals with a thick accessory margin; carpels teretish.

Leptocaulis. Calyx with the margin obsolete: petals ovate, entire: style short, permanent: fruit compressed at the side, ovate: carpels convex outside, flattish: fruit covering bifid at the apex: stem terete, and leaves many-cleft.

Sison. Ammi. Carpels 5-ribbed, ovate, solid; intervals convex; sides contracted; general involucre wanting, and sometimes the partial also. (bishop weed.) *S.*

Cryptotaenia. Calyx with the margin obsolete; petals obovate sub-entire narrowing into an inflexed point; fruit contracted at the side, linear-oblong with a short slender foot-stem and crowned with a straight style; and having many edging fillets, concealed or nearly so; fruit covering bifid at the apex. Plant glabrous; leaves 3-cleft, segments curve-toothed.

Sium. Carpels ovate, gibbous-convex, 5-ribbed, with 4 intervening grooves: germ oblong-ovate, glabrous, compressed laterally: perianth obsolete: petals cordate, inflexed; involucres many-leaved, entire. (water parsnip.) *S.*

Bupleurum. Fruit ovate-oblong, gibbose, obtuse, with prominent, acute, abrupt ribs, with flat interstices and contracted juncture: calyx none or scarcely any: petals equal, broadish, involute; styles short.

Atrema. Teeth of the calyx 5, acute, small, permanent; petals obovate, emarginate, with sub equal inflexed divisions; fruit sub-didymous, sub-globose, ventricose, marked with 5 prominent ribs.

Coriandrum. Carpels sub-spherical; germ spherical: perianth 5-toothed: petals cordate-inflexed, outer ones largest; involucre 1-leaved, or wanting. (coriander.)

Carpels with winged or filletted margins; or thin dorsal fillet-like ribs.

ANGELICA. Carpels with 3 ribs on their backs, and winged margins: intervals between the ribs grooved: germ oval, corticate; general involucre none. (angelica.) *S.*

FERULA. Calyx minute entire: petals oblong, sub-equal: fruit sub-oval, compressed, flat, wing-margined: carpels with 3 dorsal lines; intervals and joining sides striate; general involucre caducous, partial ones many-leaved.

ANETHUM. Carpels flat or convex, 5-ribbed: germ lenticular, compressed: calyx and petals entire; involucres none. (fennel, dill.)

ARCHEMORA. Calyx with the margin 5-toothed: petals obcordate with inflexed divisions: fruit compressed at the back; sides dilate into a membranaceous margin rather broader than the seed. Leaves pinnatifid. No general involucre, but many-leaved partial ones. Flowers white.

PASTINACA. Carpels emarginate at the apex, somewhat winged; ribs 3 besides the wings; intervals striate; joining sides 2-striate: germ oval, compressed: perianth-calyx entire: petals entire, incurved, sub-equal: involucre none. (parsnip.)

Carpels with wing-like ribs.

HERACLEUM. Carpels with winged margins, and 3 ribs on the back, obtuse, and 3 grooves on their outer sides, with the intervals dotted half way down; joining sides flat, with 2 dots; germ oval, emarginate at the apex: petals emarginate, inflexed: general involucre none, partial involucre 3 to 7-leaved: flowers, somewhat radiated. (cow parsley.)

POLYTÆNIA. Calyx 5-toothed: petals oval, emarginate, with inflexed divisions: fruit oval, compressed from its lenticular back, very glabrous with a smooth tumid margin; a pair of dorsal fillets between the pair of carpels.

PEUCEDANUM. Calyx minute, 5-toothed: petals oblong, incurved, equal: fruit oval, compressed, surrounded with a winged margin, having 5 striae on each carpel, and elevated intervals, joining sides flat. (sulphur wort.)

TREPOCARPUS. Calyx 5-toothed; teeth subulate: petals obcordate, with inflexed margins: fruit pyramid-angled: commissure thick, furrowed in the middle, filletted within.

CYMOPTERUS. Calyx minutely 5-toothed: petals round-oval, inflexed at the apex: fruit sub-oval, compressed, 7 or 8-winged; wings undulated; joining sides naked. Plant smooth, low, root perennial. Umbel with 4 to 6 short rays. Sub-polygamous.

CYNOSCIADIUM. Calyx with 5 permanent subulate teeth: petals sub-obovate, obtuse, entire, flat: fruit oval-oblong or ovate, tapering to the apex—the slender foot is conical permanent, and the style is very short and reflexed; lateral margins two. Plant glabrous: stem angled.

SESELI. Umbel globose: margin of the calyx 5-toothed: petals obovate: fruit oval or oblong, crowned with a reflexed style.

CNIDIUM. SELINUM. Carpel ovate, solid; ribs 5, acute, somewhat winged; intervals furrowed, striate: general involucre wanting, partial, 1-leaved, or none.

THASPIUM. Calyx 5-toothed at the margin: petals oval, tapering into long inflexed apexes: fruit not contracted at the side, sub-oval; wings sub-equal filletted at the joining edges; carpel terete. No general involucre, partial ones 3-leaved.

LIGUSTICUM. Carpels with 5 acute ribs and 4 intervening grooves: germ oblong, corticate: general and partial involucres many-leaved. (lovage.) *S.*

ORDER III. TRIGYNIA.

A. *Flowers superior.*

VIBURNUM. Calyx 5-parted or 5-toothed, small: corol bell-form 5-cleft, with spreading or reflexed lobes: stigmas almost sessile: berry or drupe 1 seeded. (snowball, sheep-berry, high cranberry.) *S.*

SAMBUCUS. Calyx 5-parted or 5-cleft, small: corol sub-urceolate, or sub-rotate, 5-cleft: stigma minute, sessile: berry globose, 1-celled, 3-seeded. (elder.) *S.*

B. *Flowers inferior.*

RHUS. Calyx 5-parted: petals 5: berry 1-seeded, small, sub-globular. (sumac, poison-ivy.) *S.*

STAPHYLEA. Calyx 5-parted, colored: petals 5 on the margin of a glandular 5-angled disk: capsules inflated, connate; nuts globular, having a cicatrice, 1 or 2 remaining in each capsule, though several appear as rudiments while in bloom. (bladder nut.) *S.*

Southern.

Turnera. Calyx 5-cleft, funnel-form, often with bracts at the base: petals 5 with claws, inserted on the calyx: stigmas many-cleft: capsule 1-celled, 3-valved.

Lepuropetalon. Calyx 5-parted: petals 5 resembling scales, inserted into the calyx: capsule free near the summit, 1-celled, 1-valved.

Loeflingia. Sepals 5 united at the base, subulate, cuspidate, the three exterior with a seti-form appendage on each side near the base: petals 5, very minute, connivent: stamens 3 to 5; styles 3, distinct or united below, sometimes almost none: capsule 1-celled, many seeded.

Merkia. Sepals 5; petals 5, unguiculate, entire; styles 3; capsule sessile, inflated, depressed-globose and umbilicated, grooved, imperfectly 3-celled; 3-valved; seeds numerous, minute.

Meconella. Sepals 3; petals 5 to 6; stamens 4 to 6; filaments membranaceous, dilated upwards; anthers very short, the cells disjoined; stigmas 3, rarely 4, linear, very short sessile: capsule 1-celled, pod-shaped, slender, 3 rarely 4 valved; valves flat, 1-nerved, dehiscent from the apex to the base; seeds numerous, smooth and shining, sub-globose.

*Polygonum, Arenaria, Hypericum, Panax.

Order IV. Tetragynia.

Parnassia. Calyx inferior, permanent, 5-parted: corol 5-petalled: nectaries 5-fringed, with stamen-like divisions with globular tips: stigmas sessile: capsule 4-valved, 1 or 2-celled: seed membranaceous-margined. (parnassus grass, flowering plantain.) *S.*

Order V. Pentagynia.

Aralia. Umbellets involucred; perianth 5-toothed, superior: petals 5: stigmas sessile, sub-globose: (oblong) berry crowned, 5-celled; cells 1-seeded. (spikenard, wild sarsaparilla.) *S.*

Statice. Calyx 1-sepalled, entire, plaited, scarious, inferior; corol 5-petalled: capsule 1-seeded, valveless, covered with the permanent calyx. (marsh rosemary.) *S.*

Linum. Calyx 5-sepalled or 5-parted, permanent: corol 5-petalled, inferior, with claws: capsule 5 or 10-valved, 10-celled: seeds solitary, ovate, compressed: filaments spreading or united at the base. (flax.) *S.*

Sibbaldia. Calyx 10-cleft, with the alternating segments narrower: petals 5, inserted in the calyx: styles attached to the germ laterally: nuts 5, in the bottom of the calyx. *S.*

*Spergula. Cerastium.

Order VI. Hexagynia.

Drosera. Calyx inferior, deeply 5-cleft, permanent; petals 5, marcescent: anthers adnate: styles 6, or one deeply divided: capsule round, 1 or 3-celled, many-seeded; valves equalling the number of stigmas. (sundew.) The leaves of all the species are beset with glandular hairs resembling dew. *S.*

Order XII. Polygynia.

Myosurus. Petals 5, with tubular, honey-bearing claws: calyx spurred at the base.

Xanthorhiza. Calyx 0: petals 5: nectaries 5, pedicelled: capsule half 2-valved, 1-seeded: stamens 5—10. (yellow-root.) *S.*

CLASS VI. HEXANDRIA.

Order I. Monogynia.

A. *Flowers having a perianth and corol, without a spathe.*

Tradescantia. Calyx inferior, 3-sepalled; corol 3-petalled; filaments with jointed beards: capsules 3-celled, many-seeded. (spider-wort.) *S.*

Leontice. Caulophyllum. Calyx inferior, 3 to 6-sepalled, caducous: nectaries 6, sub-reniform, fleshy, glutinous at the margin, attached to the claws of the petals:

seed naked, elevated on a stipe, after having burst its caducous pericarp. The seed was formerly taken for a drupe, until Brown detected the error. (Poppoose root.) *S.*

Vancouveria. Sepals 6, oblong, thin and membranaceous, with 3—9 bracteoles at base, caducous; petals 6, reflexed; nectaries 6, opposite the petals, linear spatulate: ovary follicle-shaped, ovules numerous.

Berberis. Mahonia. Sepals inferior: petals 6, with 2 glands at the claw of each: style 0: berry 1-celled, 2 or 4-seeded: (stigma umbilicate: stamens spring up on being irritated.) (barberry.) *S.*

Prinos. Calyx inferior, 6-cleft, small: corol wheel-form, 6-cleft or 6-parted: berry 6-seeded: seeds nut-like. (winter-berry.) *S.*

Flœrkea. Sepals 3, inferior: corol 3-petalled, shorter: style 2-cleft: capsule bladder-like, 2 or 3-grained. (false mermaid.)

Cleome. Sepals 4, distinct, or sometimes more or less united below: petals 4: receptacle minute or nearly hemispherical: stamens sometimes 4, often unequal: pod linear or oblong, sub-sessile or raised on a stipe.

Gynandropsis. Sepals 4, distinct, spreading: petals 4: receptacle linear, elongated: stamens with the lower part of the filaments, adnate to the receptacle its whole length; pod linear-oblong, raised on a long stipe, which rises from the top of the receptacle.

Cristatella. Sepals 4, somewhat united at the base, spreading: petals 4, on filiform claws, fimbriate-toothed, or laciniate, the two lower much smaller: receptacle minute, bearing a conspicuous tubular and truncate petaloid nectary, between the ovary and the upper sepal: stamens 6 to 14, filaments nearly equal, declined: ovary declined; style filiform; pod linear-stipitate.

Isomeris. Sepals 4, united below, somewhat spreading, marcescent: petals 4, oblong, sessile, regular: receptacle fleshy, sub-hemispherical, produced into a small dilated appendage on the upper side: stamens equal, much exserted: capsule large, obovate elliptical, coriaceous, indehiscent, stipitate, crowned with the very short subulate style: seeds several, very large, smooth.

Cleomella. Sepals 4, very small, distinct, spreading: petals 4, sub-spatulate, subsessile: receptacle short, oblong: pod obovate-rhomboidal, 4—6 seeded, raised on a filiform stipe.

Southern.

Tillandsia. Calyx 3-cleft, sub-convolute, permanent: corol 3-cleft, bell tubular: capsule 1 to 3-celled: seed comose.

Diphyllia. Sepals 3, caducous: petals 6, opposite to the divisions of the calyx: anthers adhering to the filaments, with cells opening longitudinally: berry 1-celled: seeds 2 or 3, roundish.

B. *Flowers having a spathe or glume, without a perianth.*

Amaryllis. Corol superior, 6-petalled, unequal: filaments unequal in proportion or direction, declined, inserted in the throat of the tube. (damask lily.) *S.*

Allium. Spathe many-flowered: corol inferior, 6-parted, very deeply divided: divisions ovate, spreading: capsule 3-celled, 3-valved, many-seeded: (flowers in close umbels or heads.) (leek, garlic, onion, cives.) *S.*

Hypoxis. Glume-like spathe, 2-valved: corol superior, 6-parted, permanent: capsule elongated, narrow at the base, 3-celled, many-seeded: seed roundish. (star-grass.) *S.*

Pontederia. Corol inferior, 6-cleft, 2-lipped, with 3 longitudinal perforations below: capsule with utricles, fleshy, 3-celled, many-seeded: 3 stamens commonly inserted on the tip, and three on the tube of the corol. (pickerel-weed.) *S.*

Exotic.

Galanthus. Petals 3, concave, superior: nectaries (or inner petals) 3, small, emarginate: stigma simple. (snowdrop.)

Narcissus. Corol bell-form, spreading, 6-parted or 6-petalled, equal, superior: nectary bell-form, 1-leaved, inclosing the stamens. (jonquil, daffodil.)

Southern.

Pancratium. Corol superior, funnel-form, with a long tube: nectary 12-cleft, bearing the stamens.

Brodiæa. Corol inferior, bell-form, 6-parted: filaments inserted in the throat of the corol: germ pedicelled: capsule 3-celled, many-seeded.

Crinum. Corol superior, funnel-form, half 6-cleft; tube filiform; border spreading, recurved; segments subulate, channelled: filaments inserted on the throat of the corol, separate.

C. *Flowers having no calyx.*

Conostylis. Corol more than half inferior, 6-cleft, permanent, with branching hairs: anthers erect: style conic, 3-parted: stigma simple: capsule opening at top, 3-celled, 3-valved, many-seeded. *S.*

Aletris. Corol superior, funnel-form, wrinkled, somewhat 6-cleft: the stamens inserted at the base of its divisions: style 3-sided, 3-partible: capsule 3-celled, many-seeded, half inferior, opening at the summit, when mature. (false aloe.) *S.*

Agave. Corol erect, superior, tubular, or funnel-form: filaments erect, longer than the corol: capsule triangular, many-seeded. (agave.) *S.*

Phalangium. Corol inferior, 6-petalled, spreading: filaments smooth: capsule ovate: seeds angular.

Narthecium. Corol 6-petalled, inferior, spreading, permanent: filaments thread-form, hairy: capsule prismatic, 3-celled: seeds many, appendaged, or long and slender at both ends. (false asphodel.)

Ornithogalum. Corol 6-petalled, inferior, erect, permanent, spreading above the middle: filaments dilated, or subulate, at the base: capsule roundish, angled, 3-clleed; seed roundish, naked. (star of Bethlehem.) *S.*

Lilium. Corol inferior, liliaceous, 6-petalled: petals with a longitudinal line from the middle to the base: stamens shorter than the style; stigma undivided: capsule sub-triangular, with the valve connected by hairs crossing, as in a sieve. (lily.) *S.*

Erythronium. Corol liliaceous, inferior, 6-petalled; petals reflexed, having two pores and two tubercle-form nectaries at the base of the three inner alternate petals: capsule somewhat stiped; seeds ovate. (dog-tooth violet, or adder-tongue.) *S.*

Uvularia. Corol inferior, 6-petalled, with a nectariferous hollow at the base of each petal: filaments very short, growing to the anther: stigmas reflexed (perhaps on the divisions of the style): capsule 3-cornered, 3-celled, 3-valved; with transverse partitions: seeds many, sub-globose, arilled at the hilum. (bell-wort.) *S.*

Streptopus. Corol inferior, 6-petalled, sub-campanulate: stigma very short: berry sub-globose, smooth, 3-celled: seeds few, not arilled at the hilum. (rose bellwort.) *S.*

*Convallaria. [Smilacina. Polygonatum. Dracæna.] Corol inferior, 6-cleft: berry globose, 3-celled, spotted before ripening. (Solomon's seal.) *S.*

Asparagus. Corol inferior, 6-cleft or 6-parted, erect: the 3 inner divisions reflexed at the apex: style very short; stigmas 3; berry 3-celled, cells 2-seeded. (asparagus.) *S.*

Exotic.

Polyanthus. Corol funnel-form, incurved: filaments inserted in the throat: stigma 3-cleft; germ within the bottom of the corol. (tuberose.)

Hyacinthus. Corol roundish or bell-form, equal, 6-cleft; three nectariferous pores at the top of the germ: stamens inserted in the middle of the corol: cells somewhat 2-seeded. (hyacinth.)

Tulipa. Corol 6-petalled, liliaceous: style none; stigma thick: capsule oblong, 3-sided. (tulip.)

Asphodelus. Corol 6-parted, spreading: nectary covering the germ with 6 valves. (king's spear, or asphodel.)

Hemerocallis. Corol 6-parted, tubular, funnel-form: stamens declined: stigma small, simple, somewhat villose. (day-lily.)

Southern.

Yucca. Corol inferior, bell-form, segments not nectariferous: filaments sub-clavate; style none: capsule oblong: with 3 obtuse angles, 3-celled, opening at the summit: seeds flat. (adam's needle.)

Fritillaria. Corol inferior, 6-petalled, bell-form, with a nectariferous cavity above the claw of each: stamens of the length of the corol: seeds flat. (crown imperial.)

Scilla. Corol 6-petalled, spreading, caducous: filaments thread-form, attached to the base of the petals. (squills.)

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*I follow Dr. Torry with pleasure, in bringing back these three genera to the Convallaria.

D. *Flowers incomplete; having perianth-like calyx or corol; but neither in perfection.*

Orontium. Receptacle spadix-like, cylindric, covered with florets: spathe 0: corol 6-petalled, naked: style 0: capsule bladder-like, 1-seeded. (floating arum.) *S.*

Acorus. Receptacle spadix-like, cylindric, covered with florets; calyx 6-parted, naked: corol 0; (or calyx none, corol 6-parted or 6-petalled:) style none; stigma a mere point: capsule 3-celled, 3-seeded. (sweet flag.) *S.*

Juncus. Glume or outer calyx, 2-valved: perianth inferior, 6-leaved, glume-like permanent: stigmas 3: capsules 1 or 3-celled, 3-valved, many-seeded; seeds attached to a partition in the middle of each valve. (rush-grass, bul-rush.) *S.*

Luzula. Glume, or outer calyx, 2-valved; perianth 6-leaved, glume-like: capsule 3-celled, 3-valved, many-seeded; valves without partitions. (false rush-grass.) *S.*

*Trientalis, Laurus, Lythrum, Corydalis, Polygonum.

Order II. Digynia.

Exotic.

Oryza. Glumes 2, 1-flowered: paleas 2, adhering to the seed. (rice.)

Southern.

Oxyria. Perianth simple, 4-sepalled, 2 inner ones largest: corol none: nut 3-sided, with a broad membranaceous margin: stamens 2 to 6: stigma large, plumose.

Nectris. Cabomba. Calyx inferior, 6-sepalled: corol none: carpels 3, not opening. The calyx may be considered as 6-parted, and the 3 inner divisions are petal-like, obtuse, and smaller. The capsule is bladder-like, 1 or 2-celled, 1 or 2-seeded.

Order III. Trigynia.

Melanthium. Polygamous. Calyx none: corol wheel-form, 6-parted or 6-petalled, each part with 2 glands at the base: stamens from the lengthened claws of the petals: capsule ovatish, somewhat 3-cleft at the apex, 3-celled: seeds membrane-winged. numerous. (black-flower.) *S.*

Zigadenus. Calyx 6-sepalled, spreading, with 2 glands above the narrow base of each leaf: stamens inserted in contact with the germ; capsule membranaceous, 3-celled, many-seeded. (Calyx is colored and corol-like.) (zigadene.) *S.*

Veratrum. Polygamous or dioecious. Calyx 0; corol 6-parted or 6-petalled, sessile, spreading, without glands: capsules 3-lobed, many-seeded. (The staminate flowers have the rudiment of a pistil.) (itchweed, or swamp hellebore.) *S.*

Helonias. Calyx 0: corol 6-parted or 6-petalled, spreading, glandless: styles distinct; capsules 3-celled, 3-horned, few seeded. (helonias.) *S.*

Xerophyllum. Corol wheel-form, deeply 6-parted: filaments contiguous at the base: stigmas 3, revolute, sub-connate at the base; capsule sub-globose, opening at the top into three fissures, 3-celled, each 2-seeded.

Tofieldia. Calyx 3-cleft or 3-sepalled, inferior: petals 6: anthers roundish: styles vertical, short; capsules 3-lobed, lobes joined at the base, many seeded. *S.*

Scheuchzeria. Calyx 6-parted, inferior: corol 0: (or corol 6-parted and calyx 0:) anthers linear: stigmas sessile, lateral: capsules 3-lobed, inflated, 1 or 2-seeded. (less flowering rush.)

Triglochin. Calyx 3-sepalled, inferior: corol 3-petalled, resembling the calyx: (or a double calyx with 3 outer and 3 inner sepals) stamens 3 or 6: styles 0; stigmas 3 or 6, hairy: capsules 3 or 6-lobed, united above and separate at their bases, 1-seeded, not opening. (arrow-grass.) *S.*

Gyromia. Medeola. Calyx 0: corol deeply 6-parted, revolute: anthers slightly attached to the filaments: style 0: stigmas 3, long-linear, revolute, spreading, slightly united at the base: berry 3-celled, cells 5 or 6-seeded; seeds compressed, 3-sided. (indian cucumber.) *S.*

Trillium. Calyx 3-sepalled, inferior, spreading: corol 3-petalled: styles 0; stigmas 3: berry 3-celled, many seeded. (false wake robin.) *S.*

Rumex. Calyx 3-sepalled: petals 3, valve-like, converging, (or calyx 6-sepalled, and corol none:) stigmas many-cleft; nut 1, naked, three-sided. (dock, field-sorrel.) *S.*

Southern.

Sabal. Flowers perfect: spathes partial: filaments unconnected, thickish at the base: drupe spherical, dry-cartilaginous: seed 1, indurated. (false fan-palm.)

CHAMAEROPS Flowers polygamous: spathe compressed; spadix branched: perianth 3-parted: corol 3-petalled: filaments partly united: drupe 3-celled, two of them often empty. The staminate flowers grow on distinct plants. (fan palm.)

CALOCHORTUS. Corol 6-parted, spreading; 3 inner segments larger, with the upper side woolly, and marked near the base with a roundish smooth spot: filaments short, inserted on the base of the petals: anthers arrow-form, erect: stigmas reflexed: capsule 3-celled.

NOLINA. Corol 6-parted, spreading; segments nearly equal: styles very short; stigmas recurved: capsule 3-sided, membranaceous, 3-celled, opening by a divisible partition: seed 1, incurved, convex, abortive in 1 or 2 of the cells.

ORDER VI. HEXAGYNIA.

Southern.

WENDLANDIA. MENISPERMUM? Calyx 6-sepalled: corol 6-petalled: (succulent?) styles reclined: carpels 6, each with 1 compressed nut-like seed. (false moonseed.)

*Saururus (rarely.)

ORDER XII. POLYGYNIA.

ALISMA. Calyx 3-sepalled: petals 3: carpels numerous, 1-seeded, not opening. (water-plantain.) *S.*

CLASS VII. HEPTANDRIA.

ORDER I. MONOGYNIA.

TRIENTALIS. Calyx 7-sepalled: corol 7-parted, equal, flat: berry juiceless, 1-celled, many seeded: number of stamens variable. (chick-winter green.)

AESCULUS. Calyx bell-form, 5-lobed: petals 4 or 5, expanded; limbs-ovate: filaments recurved inwardly: cupules prickly. Leafets sessile or sub-sessile.

S. G. PAVIA. Calyx tubulose: petals 4, erect, narrow: stamens straight: cupules not prickly.

*Sabbatia.

ORDER III. TRIGYNIA.

FRANKENIA. Sepals 5, united in a furrowed tube, persistent equal: petals 5, unguiculate, with appendages at the base of the limb: capsule 1-celled, many-seeded.

*Polygonum.

ORDER IV. TETRAGYNIA.

SAURURUS. Flowers in an ament or spike, with 1-flowered scales: corol 0: anthers adnate to the filaments: carpels 1-seeded: stamens 6, 7, 8 or more. (lizard tail.) *S.*

CLASS VIII. OCTANDRIA.

ORDER I. MONOGYNIA.

A. *Flowers superior.*

RHEXIA. Calyx pitcher-form, 4 or 5-cleft: petals 4, oblique, inserted on the calyx: anthers declined, attached to the filaments behind, naked at the base: capsule 4-celled, within the calyx, setose: seeds numerous, cochleate. (deer-grass.) *S.*

ŒNOTHERA. Calyx 4-cleft, tubular, caducous; divisions deflected: petals 4, inserted on the calyx: stigma 4-cleft: capsule 4-celled, 4-valved: seed not feathered, affixed to a central 4-sided columella. (scabish, or tree-primrose.) *S.*

GAURA. Calyx 4-cleft, tubular: corol 4-petalled, ascending towards the upper side: nut 4-cornered, 1-seeded. (virginian loose-strife.) *S.*

EPILOBIUM. Calyx 4-cleft, tubular, or 4-sepalled: corol 4-petalled: capsule oblong and of great length: seeds feathered. (willow-herb.) *S.*

OXYCOCCUS. Calyx superior, 4-toothed: corol 4-parted, the divisions sub-linear, revolute: filaments converging; anthers tubular, 2-parted: berry many-seeded. (cranberry.) *S.*

Exotic.

FUCHSIA. Calyx funnel-form, colored, superior, caducous: petals (or nectaries) 4, sitting in the throat of the calyx, alternating with its divisions: stigma 4-sided-capitate: berry oblong, 4-celled: seeds numerous. (ear-drop.)

Southern.

Clarkia. Calyx 4-cleft, tubular: corol 4-petalled, 3-lobed-crossform, with claws: stamens 4, with roundish anthers, imperfect: stigma petal-like, 4-lobed: capsule 4-celled. (false tree-primrose.)

B. *Flowers inferior.*

Menziesia. Calyx monophyllous: corol monopetalous, ovate: filaments inserted on the receptacle; anthers awnless: capsules 4-celled, the partitions from the inflexed margins of the valves: seeds many, oblong. *S.*

Acer. Polygamous. Sometimes hexandrous. Calyx 5-cleft: corol 4 or 5-petalled, or wanting: samaras 2, united at the base, 1-seeded, often one rudiment of a seed. (maple.) *S.*

Dirca. Calyx 0: corol tubular; limb obsolete, unequal: stamens unequal, longer than the tube of the corol: style filiform: berry or drupe 1-seeded. (The corol may be taken for a colored calyx. (leather-wood.) *S.*

Jeffersonia. Calyx 4 or 5-sepalled, colored, caducous: corol 8-petalled: capsule obovate, sub-stiped, 1-celled, dehiscent below the top: seeds many, oblong, arilled at the base. (twin-leaf.)

Dodonæa. Sepals 4, deciduous: petals 0: style 1, filiform.

Exotic.

Erica. Calyx 4-sepalled, permanent: corol 4-cleft, permanent: filaments inserted on the receptacle: anthers bifid: capsules membranaceous, 4 to 8-celled, the partitions from the margins of the valves: seeds many in each cell. (heath.)

Daphne. Calyx 0: corol 4-cleft, withering, including the stamens: drupe 1-seeded. (mezereon.)

Tropæolum. Calyx 4 or 5-cleft, colored, spurred: petals 4 or 5, unequal: nuts leathery, sulcate. (nasturtion.)

Southern.

Elliottia. Calyx 4-toothed, inferior: corol deeply 4-parted: stigma capitate. (false spiked alder.)

Amyris. Flowers perfect: calyx 4-toothed, permanent: petals 4, inferior, wedge-form, having claws, imbricate in the bud: the 8 stamens all shorter than the petals: germ 1-celled, sitting on a thickened disk-form receptacle; stigma sessile; drupe by abortion, 1-seeded.

*Æsculus, Vaccinium, Gaultheria, Polygala, Populus.

ORDER II. DIGYNIA.

Chrysosplenium. Calyx superior, 4 or 5-cleft, colored: corol 0: capsule 2-beaked, 1-celled, many-seeded. (The terminal flowers in the European specimens are decandrous, but the plant is always octandrous in America. (golden saxifrage, water-carpet.) *S.*

ORDER III. TRIGYNIA.

Polygonum. Calyx inferior, 5-parted, colored: corol 0: nut 1, angular, covered with the calyx. Stamens and pistils vary in number. The calyx in some species might be taken for a corol. (knot-grass, water pepper, buckwheat, hearts-ease.) *S.*

Southern.

Brunichia. Calyx tubular, inflated, 5-cleft; angular at the base and decurrent into the dilated peduncle, becoming coriaceous: corol none: styles short: stigmas 2-cleft: pericarp lobed: seed 1, 3-sided. Stamens vary from 8 to 10.

Cardiospermum. Calyx 4-sepalled: petals 4: nectary 4 leaved, unequal: capsule membranaceous, inflated, 3-lobed, 3-celled: seeds round, marked at the hilum with a heart-form spot. (heart seed.)

Sapindus. Calyx 4-sepalled: petals 4, glandular at the base: capsule 3-lobed, connate, fleshy, inflated, 2 of them often empty: seed spherical. (soap-berry.)

*Myriophyllum.

ORDER IV. TETRAGYNIA.

Exotic.

Bryophyllum. Sepals 4: petals 4, connate into a cylinder: seeds many.

Southern.

Adoxa. Calyx inferior, 2 or 3-cleft: corol 4 or 5-cleft, apparently superior: berry 1-celled, 4 or 5-seeded, attached to the calyx. Flowers lateral, stamens 8 to 10.

CLASS IX. ENNEANDRIA.

Order I. Monogynia.

Laurus. Calyx 4 to 6-parted: corol 0: nectaries 3, each a 2-bristled or 2-lobed gland, surrounding the germ: drupe 1-seeded. Stamens vary from 3 to 14, but they are generally in two series of 6 each, with 3 of the inner series barren—often dioecious. The calyx may be taken for a corol. (sassafras, spice-bush.) *S.*

Order II. Digynia.

Southern.

Eriogonum. Calyx wineglass-form, tubular at the base; border 6-cleft; segments unequal, villose outside: corol none: nut 1, 3-sided, without margins, covered by the calyx. Flowers involucred—no stipules.

Pleea. Calyx none: corol 6-parted, spreading; segments linear, acute: capsule roundish, 3-angled, 3-celled; partitions obsolete: seeds numerous, minute, sub-terete and caudate, attached to the margin of the valves.

Order III. Trigynia.

Exotic.

Rheum. Calyx none: corol 6-cleft, permanent: nut 1, 3-sided. (rhubarb.)
*Lechea.

CLASS X. DECANDRIA.

Order I. Monogynia.

A. *Flowers polypetalous, irregular, (mostly papilionaceous.)*

Cassia. Calyx 5-sepalled: corol 5-petalled: anthers 3, lower ones beaked, and on longer incurved filaments, legume membranaceous. (cassia.) *S.*

Baptisia. Podalyria. Calyx 4 or 5-cleft half way, (sometimes 4-toothed) somewhat 2-lipped: corol papilionaceous; wings of the length of the reflexed banner; stamens caducous: legume inflated, smooth, many-seeded. (wild indigo.) *S.*

Cercis. Calyx 5-toothed, gibbous below: corol papilionaceous; wings longer than the banner; keel 2-petalled: legume compressed: seed-bearing suture margined; seeds obovate. (judas-tree.) *S.*

Rhodora. Calyx 5-toothed: corol 3-petalled, or 2-petalled, with the upper one deeply parted: stamens declined: capsule 5-celled, 5-valved, opening at the top: partitions formed of the inflexed margins of the valves. (rhodora.)

Southern.

Sophora. Calyx 5-toothed, bell-form, gibbose on the upper side: corol papilionaceous; wings of the length of the banner: legume with globular joints.

Thermia. Thermopsis. Calyx somewhat bell-form, half 4-cleft; the upper segment truncate and emarginate: corol papilionaceous, with petals about equal length; banner reflexed at the sides; keel obtuse: legume many-seeded, compressed, falcate, tapering to the base.

Virgilia. Calyx 5-cleft: corol papilionaceous, with petals of about equal length; sides of the banner not reflexed: stigma beardless: legume compressed, oblong, many-seeded.

Pomaria. Calyx turbinate, 5-parted, caducous: petals 5, with short claws, upper ones concave, short: filaments hirsute below: stigma capitate: legume 1-celled, 2-seeded.

B. *Flowers polypetalous, regular.*

Pyrola. Calyx 5-parted: petals 5: styles longer than the stamens: anthers with 2 pores at the base before, and the top after, the opening of the flower: capsule 5-celled, dehiscent at the angles near the base. (shinleaf.) *S.*

Chimaphila. Calyx 5-parted: petals 5: anthers beaked, with 2 pores at the base before, and at the top after, the opening of the flower: style immersed; stigma thick, orbiculate: capsule 5-celled, dehiscent at the angles near the summit. (prince's pine, pipsissiwa.) *S.*

Ledum. Calyx small, 5-toothed: corol flat, 5-petalled or 5-parted: stamens exsert; anthers opening by 2 terminal pores: capsule 5-celled, dehiscent at the base, 5-valved, valves with approximating, inflexed margins: receptacle 5-lobed; columella 5-angled, pedicelled: seeds numerous, winged. (Stamens sometimes 5: leaves downy.) labrador-tea.)

Leiophyllum. Calyx 5-parted: corol flat, 5-parted or 5-petalled: stamens longer than the corol, with lateral anthers opening longitudinally on their insides: capsule 5-celled, dehiscent at the top, 5-valved; valves ovate with margins inflexed, remote, straight: columella subovate, terete, rugose: seeds small, not winged, (leaves always glabrous.) (sleek leaf.) *S.*

Clethra. Calyx 5-parted, permanent: corol 5-petalled: style permanent; stigma short, 3-cleft: capsule 3-celled, 3-valved, enclosed by the calyx. (Spiked.) (sweet pepper-bush.) *S.*

Exotic.

Ruta. Calyx 5-parted: petals concave: receptacles surrounded by 10 nectariferous dots: capsule lobed. (Petals sometimes 4, and stamens 8.) (rue.)

Southern.

Mylocaryum. Calyx 6-toothed: petals 5: stigma capitate, 3-cornered, sessile: capsule superior, somewhat corky, 2 or 3-winged, 3-celled, 1-seeded: seed subulate. (buckwheat tree.)

Melia. Calyx 5-parted, small: petals 5: nectary cylindric, 10-toothed; teeth 2-cleft at the points, orifice bearing the anther within: style cylindric: stigma 5-rayed: drupe globose: nut 5-celled, 5-seeded. (pride of china.)

Swietenia. (Cedrus Miller's Dic.) Calyx small, 4 or 5-cleft: petals 4 or 5: stamens 8 to 10, filaments united into a tube, toothed at the apex, bearing the anthers within: style 1; stigma capitate: capsule woody, 5-celled: seed expanded into wings. (mahogany tree.)

Tribulus. Calyx 5-parted: petals 5, spreading: styles none: stigma partly 5-cleft: capsules generally 5, gibbous sub-spinose, 2 or 3-seeded. (caltrops.)

Dionæa. Calyx 5-parted or 5-sepalled: petals 5: stigma fringed: capsule roundish, gibbous, 1-celled, many-seeded. Petals sometimes 6. (venus fly-trap.)

Jussiæa. Calyx 4 or 5-parted, superior, permanent: petals 4 or 5, ovate: capsule 4 or 5-celled, 4 or 5-valved, oblong, cylindric or angular: many-seeded: seeds minute, attached to an angular columella. Stamens sometimes but 8.

Prosopis. Calyx hemispherical, 4-toothed: petals 5, lance-linear, recurved at the apex: filaments capillary, adnate at the base: stigma simple; legume long, many-seeded.

Limnanthes. Sepals 5, united at the base: petals 5, cuneiform, retuse, longer than the sepals: ovaries 5; styles united into one, nearly to the top.

Limonia. Calyx 4 or 5-cleft, urceolate, marcescent: petals 4 or 5: stamens 8 to 10; filaments distinct, subulate; anthers cordate, oblong: receptacle elevated, forming a short stipe to the ovary: style 1, stigma somewhat lobed: fruit orange-form, 4 or 5-celled—or by abortive growth fewer: seeds solitary in each cell.

C. *Flowers monopetalous.*

Arbutus. Calyx inferior, 5-parted, minute: corol ovate, pellucid at the base; border small, 5-cleft revolute: filaments hairy: berry 5-celled. (bear berry.)

Epigæa. Calyx double, outer 3-sepalled, inner 5-parted; (or calyx 5-parted, with 3 bracts): corol salver-form; border 5-parted, spreading: tube villose within: capsule 5-celled, many-seeded: receptacle 5 parted. (trailing arbutus.) *S.*

Gaultheria. Calyx inferior, double; outer 2-sepalled, inner 5-cleft: (or calyx 5-cleft, with 2 bracts;) corol ovate; border small, 5-cleft, revolute: filaments hairy: receptacle 10-toothed; (or with a 10-pointed nectary:) capsule 5-celled, invested with the inner-berry-like-calyx. (spicy wintergreen.) *S.*

Vaccinium. Calyx superior, 5-toothed or 5-parted: corol bell or pitcher-form, 5-cleft, the divisions reflected: filaments inserted on the germ with the corol: berry 4 or 5-celled, many-seeded. (The foreign species are sometimes octandrous.) (whortleberry.) *S.*

ANDROMEDA. Calyx 5-parted or 5-toothed, inferior: corol ovate, roundish, or subcylindric, with a 5-cleft reflexed mouth: capsule 5-celled, 5-valved, with partitions contrary. (Stamens sometimes 8.) (white-bush, leather-leaf.) *S.*

KALMIA. Calyx 5-parted: corol wheel-salver-form, with 10 horns beneath and 10 cavities within, containing the anthers until the pollen is mature: capsule 5-celled, many seeded. (laurel.) *S.*

RHODODENDRON. Calyx 5-parted: corol 5-cleft, somewhat funnel-form and oblique: stamens declining; varying from 5 to 10; anthers opening by 2 terminal pores: capsules 5-celled, 5-valved, opening at the top. (rosebay.) *S.*

D. *Flowers without a calyx; (or with a colored petal-like one) whole plant destitute of green herbage.*

MONOTROPA. Corol confusedly polypetalous, permanent: petals 5 to 7, with nectariferous hollows at their bases: stamens sometimes 8; anthers 1-celled, bilabiate: stigma orbicular, umbilicate or depressed: capsule 5-celled, 5-valved: seeds numerous, invested with an arillus-like membrane. (bird's nest.) *S.* HYPOPITHIS returned.

PTEROSPORA. Corol 5-parted: nectary ovate, with a 5-toothed reflexed margin, enclosing the stamens: anthers 2-celled, 2-bristled, sub-peltate; filaments flat: style short; stigma capitate: capsule sub-globose, 5-celled. The nectary is considered as a corol, and the corol as a calyx, by some. (albany beech-drops.)

Southern.

MONOTROPSIS. Corol 5-petalled, withering, ovate acuminate, close-pressed to the nectary: nectary bell-form, fleshy: limb with 5 ovate-acute divisions: anthers clavate, bag-like: germ 4 or 5-sided: stigma sub-globose. (carolina beech-drops.)

*Geranium, Betula, Jeffersonia, Asclepias, Portulacca, Lythrum.

ORDER II. DIGYNIA.

HYDRANGEA. Calyx 5-toothed, superior: corol 5-petalled, capsule 2-celled, 2-beaked, dehiscent between the beaks. (hydrangea.) Vid. Hortensia. *S.*

SAXIFRAGA. Calyx 5-parted, mostly half superior: corol 5-petalled: capsule 2-celled, 2-beaked, opening between the beaks; many-seeded. (saxifrage.) *S.*

TIARELLA. Calyx 5-parted, permanent: corol inserted on the calyx, 5-petalled; petals entire, with claws: capsule 1-celled, 2-valved, one valve larger. Sometimes the petals are more or less toothed. (mitre-wort.) *S.*

MITELLA. Calyx 5-cleft, permanent: petals 5 on the calyx, pinnatifid: capsule 1-celled, 2-valved, valves equal. (false sanicle, currant leaf.)

TELLIMA. Calyx adnate to the base of the germ, part free, inflated, ovate, 5-toothed, and part adhering, conic; petals 5 on the calyx, divided: styles distinct from base; stigma sub-capitate, angled: capsule 1-celled, 2-valved at the apex.

LEPTARRHENA. Calyx 5-parted or cleft, with the divisions greater or less and scarcely adhering to the germ: corol with 5 petals, shortly unguiculate entire: stamens stand alternately opposite to the petals and divisions of the calyx: anthers 1-celled; pericarps in two, scarcely adhering at the base. Leaves leathery.

SAPONARIA. Calyx inferior, 1-sepalled, tubular, 5-toothed without scales: petals 5, with claws: capsule oblong, 1-celled. (soap-wort.) *S.*

DIANTHUS. Calyx inferior, cylindrical, 1-sepalled, with 4 or 8 scales at the base: petals 5, with claws: capsule cylindrical, 1-celled, dehiscent at the top. (pink, sweet-william.)

SCLERANTHUS. Calyx inferior, 1-sepalled, 5-cleft: corol 0: capsule very smooth, indehiscent covered by the indurated tube of the calyx: stamens inserted on the calyx. (knawel.)

*Chrysosplenium, Quercus.

ORDER III. TRIGYNIA.

SILENE. (CUCUBALUS included.) Calyx tubular, inflated or cylindric, 5-toothed, naked at the base: petals 5, with claws, mostly crowned at the throat: ovary superior; capsule 3-celled at the base, opening at the summit into 6 teeth.

STELLARIA. Calyx 5-sepalled, inferior, spreading: petals 5, deeply cleft, mostly to the claw, spreading: capsule ovate, 1-celled, many-seeded, 6-toothed at the top. (starwort.) *S.*

Arenaria. Calyx inferior, spreading, 5-sepalled: petals 5, entire: capsule 1-celled many-seeded. (sandwort.) *S.*

Exotic.

Hortensia. Flowers deformed: floret solitary: calyx 5-toothed, minute: corol 5-petalled: the gay flowers composing the cyme have a large colored, permanent, petal-like, 5-sepalled calyx, and a minute caducous, 4 or 5-petalled corol: stamens 8, 10 or 11. (changeable hydrangea.)

*Castanea, Acalypha, Jatropha.

Order IV. Tetragynia.

Micropetalum. Spergulastrum. Sepals 5, expanding: petals 5, minute, entire, often wanting: stigmas 4, sessile: capsule ovate, longer than the calyx, 4-valved. (blind-starwort.)

Order V. Pentagynia.

Spergula. Calyx 5-sepalled, inferior: petals 5, entire: capsule ovate, 1-celled, 5-valved: (stamens often 5.) (spurry.) *S.*

Cerastium. Sepals 5: petals 5, 2-cleft, or emarginate: capsule 1-celled, dehiscent at the top, 10-toothed. (mouse-ear chickweed.) *S.*

Agrostemma. Calyx 5-cleft, prismatic or tubular; coriaceous: petals 5, with claws; border obtuse, entire: capsule 1-celled, many-seeded, opening with 5 teeth. (cockle.) *S.*

Oxalis. Calyx permanent, 5-parted or 5-sepalled, inferior: petals 5, cohering by the claws: capsule 5-celled, 5-cornered, dehiscent at the corners: seeds 2 or more in a cell, covered with an elastic aril: stamens with 5 shorter, outer ones adhering at their bases. This genus and the Linum might be removed to the class Monadelphia. (wood sorrel.) *S.*

Penthorum. Calyx 5 to 10-cleft: petals 5 or 0: capsule 5-cuspidate, 5-celled; cells divided transversely, many-seeded. (virginian orpine.) *S.*

Sedum. Calyx inferior, 5-cleft: petals 5: 5 nectariferous scales at the base of the germ: carpels 5. (live-forever, or orpine, stone-crop.)

Exotic.

Lychnis. Calyx 1-sepalled, oblong, 5-toothed: petals 5, with claws; the limb somewhat 2-cleft: capsule 1 or 5-celled, with a 5-toothed opening. (campion.)

*Portulacca, Geranium, Drosera.

Order X. Decagynia.

Phytolacca. Calyx 0: corol 5-petalled or 5-cleft, calyx-like, inferior: berry 10-celled, 10-seeded. By some authors the corol is called a calyx. (poke-weed.)

Horkelia. Calyx bell-form, half-10-cleft alternating divisions accessory: petals 5, small: stamens inserted on the wall of the calyx: receptacle conic, dry, villose: carpels numerous; styles simple, articulated with the carpels, sub-terminal.

CLASS XI. ICOSANDRIA.

Order I. Monogynia.

Cactus. Calyx superior, many-cleft, imbricate: petals numerous, in many series, the inner ones larger: stigma many cleft: berry 1-celled, many-seeded, umbilicate. (prickly pear.) *S.*

Bartonia. Calyx superior, 5-cleft: corol 10-petalled, inserted on the calyx: capsule cylindrical, oblong, 1-celled, summit flat, valvular, the valves 3 to 7: receptacle thick: seeds numerous, compressed, arranged horizontally in a double series.*

Prunus. Calyx 5-cleft, inferior, bell-form, deciduous: drupe ovate or oblong, very smooth, mostly covered by glaucous powder, (called plumb bloom) fleshy: nut compressed, acute at each end, smooth, with the margin sub-sulcate. (plum.) *S.*

Cerasus. Calyx bell-form, 5-cleft: petals 5: drupe globose or round-ovate, often umbilicate, or sub-cordate, at the base; very smooth, without bloom, succulent: nut sub-globose, smooth. (cherry.)

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*This is not the Bartonia of former editions. That is now called Centaurella.

Lythrum. Calyx bell-tubular, 6, 8, 10 or 12-toothed, inferior: petals 5 or 6, equal, on the calyx: capsules 2 to 4-celled, many seeded, covered. (milk willow-herb.) A genus, Decodon, has been taken from this. It is founded on the cells of the capsule being always more than 2, and the teeth of the calyx being always 10, and of a peculiar form. Elliot places the species *verticillatum* under it. *S.*

Cuphea. Calyx tubular-ventricose, 6 to 12-toothed, unequal: petals 6, mostly unequal, inserted on the calyx: capsule 1-celled, dehiscent longitudinally, with the calyx, follicle-like, 3-sided: seeds lenticular. (wax-bush.)

Exotic.

Myrtus. Calyx superior, 5-cleft: petals 5: berry 2 or 3-celled, many-seeded. (myrtle.)

Amygdalus. Calyx 5-cleft, inferior: petals 5: drupe with a nut, perforated with pores: flowers sessile. (peach.)

Armeniaca. Flowers sessile: calyx 5-cleft, inferior: petals 5: drupe fleshy, pubescent; nut with one margin acute and the other obtuse, furrowed both sides. (apricot.)

Punica. Calyx 5-cleft, superior: petals 5; pome or berry many-celled, many seeded: receptacle parietal: seed berried. (pomegrante.)

Southern.

*Calyx superior, 5-cleft, permanent: corol 10-petalled: capsule cylindrical, oblong, with a flat summit, 1-celled, 3 to 7-valved, walled up: receptacles in 3 to 7 fleshy masses, walled: seeds numerous, compressed, arranged in a double horizontal series.

Mentzelia. Calyx 5 cleft, superior, caducous: petals 5: capsule 1-celled, 3-valved, cylindric, 3 to 6-seeded: top flat: seeds oblong, somewhat angular, arranged longitudinally.

Decumaria. Calyx superior, 8 to 10-cleft: petals 8 to 10: capsule 7 to 9-celled, many-seeded: seeds subulate, minute.

Philadelphus. Calyx 4 or 5-parted, superior, top-form: corol 4 or 5-petalled: style 4-cleft: capsule 4 or 5-celled, many seeded: seed arilled. (false syringa, or mock orange.)

Chrysobalanus. Calyx 5-cleft, inferior: petals 5: style lateral: drupe prune-form; nut 5-grooved, 5-valved, 1-seeded.

Purshia. Calyx tubular, cleft into 5 ovate, obtuse lobes: petals 5-obovate, unguiculate, inserted in the mouth of the calyx with 25 stamens: germ oblong, full, stiped, glandular-pubescent, tapering into a subulate style: stigma pubescent, lateral, almost as long as the style.

Order II. Digynia, to Order V. Pentagynia; or Di-pentagynia.

Agrimonia. Calyx inferior, 5-cleft or 5-toothed, invested with an outer lobed one: petals 5: stamens 12: nuts 2, in the bottom of the calyx. (agrimony.) *S.*

Cratægus. Calyx superior, 5-cleft: petals 5: styles 1 to 5: berry mealy: cells 2 to 5, bony. (thorn-bush.) S.

Fothergilla. Calyx inferior, truncate, obsoletely crenate: corol 0: germ 2-cleft: styles 2: capsules 2-lobed, 2-celled; cells bony: seeds solitary. (witch-alder.) *S.*

Sesuvium. Calyx superior, 5-parted, colored: corol none: capsule ovate, 3-celled, opening transversely, many-seeded. *S.*

Aronia. Calyx superior, 5-toothed, or 5-parted; petals 5: fruit pomaceous; berry 5 or 10-celled; cells 1 or 2-seeded: seeds cartilaginous. (shadflower, choak-berry.) *S.*

Pyrus. Calyx 5-cleft, superior: corol 5-petalled: pome 5-celled, 2 or many-seeded; cells cartilaginous and the compressed ovate seeds have cartilaginous coverings. (pear, apple, quince, mountain ash.) *S.* Sorbus brought here by force.

Spiræa. Calyx 5-cleft, inferior, spreading: corol 5-petalled; petals equal, roundish: stamens numerous, exsert: carpels 3 to 12, 2-valved within, each 1 to 3-seeded. (steeple-bush, hard-hack.) *S.*

Gillenia. Calyx bell-tubular; border 5-toothed: corol partly unequal; petals 5, lanceolate, tapering at the claws: stamens included: styles 5, contiguous: stigmas capitate: carpels 5, connate at the base, opening on the inner side, each 2-seeded. (indian physic.) *S.*

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*See generic name, next to Torreya, in the Species part.

Exotic.

Mespilus. Calyx 5-cleft, superior; divisions generally foliaceous, serrate: corol 5-petalled: styles 2 to 5: drupe or berry with from 2 to 5 bony cells. (medlar.)

Mesembryanthemum. Calyx superior, 5-cleft: petals numerous, linear, cohering at the base: capsule fleshy, many-seeded, turbinate. (ice-plant.)

Order XII. Polygynia.

Rosa. Calyx urn-form, inferior, 5-cleft, fleshy, contracted towards the top: petals 5: carpels numerous, bristly, fixed to the side of the calyx within. A genus remarkable for the multiplications of its petals, by rich culture. (rose.) *S.*

Rubus. Calyx 5-cleft, inferior: corol 5-petalled: pistils numerous: berry composed of many juicy 1-seeded acines, on a dry receptacle. (raspberry, blackberry.) *S.*

Dalibarda. Calyx 5-cleft, (8-cleft?) inferior: corol 5-petalled: styles long, caducous, 5 to 8: acines few, dry, adhering to the calyx. (dry strawberry.) *S.*

Dryas. Calyx 8 or 10-cleft, segments equal: carpels 5 to 8: with long plumose awns.

Stylipus. Calyx inferior, 5-cleft; divisions equal: petals 5. oval, distant: stamens permanent, on a glandular ring: seeds compressed, ovate, glabrous, with scattered pubescence, sub-margined: receptacle columnar, villose, becoming elongated: awns geniculate.

Geum. Calyx inferior, 10-cleft, 5 alternate divisions smaller: corol 5-petalled: carpels with a bent awn: receptacle columnar, villose. (avens, or herb bennet.) *S.*

Sieversia. Calyx with a concave tube and 5-cleft limb. and 5 bracts outside: petals 5: carpels numerous, caudate, disposed in a head; style permanent, straight, seed ascending.

Bootia. Calyx inferior, 10-cleft, 5 alternate divisions lanceolate, having at the base of the germ against them 5 nectariferous pits: corol 5-petalled: carpels awnless, affixed to a juiceless receptacle. (false avens.) *S.*

Potentilla. Calyx flat, inferior, 10-cleft: 5 alternate divisions smaller: corol 5-petalled: petals roundish or obovate: carpels awnless, roundish, rugose, fixed to a dry small receptable. (five-finger, cinquefoil.) *S.*

Comarum. Calyx inferior, 10-cleft: 5 alternate divisions smaller: petals 5, oblanceolate, acuminate, half as long as the calyx: receptacle ovate. spongy, permanent, villose. (marsh five-finger.) *S.* The habit of this genus differs sufficiently from the Potentilla.

Fragaria. Calyx inferior, 10-cleft; 5 alternate divisions smaller: corol 5-petalled: receptacle ovate, berry-like: acines naked, immersed in the receptacle, caducous. (strawberry.) *S.*

Calycanthus. Calyx 1-sepalled, pitcher-shaped. scaly, with colored petal-like divisions; corol none; styles many, with glandular stigmas: carpels many in the succulent calyx. (carolina allspice.) *S.*

CLASS XII. POLYANDRIA.

Order I. Monogynia.

Tilia. Calyx 5 or 6-parted, inferior, caducous: corol 5 or 6-petalled: capsule 5 or 6-celled, globular, coriaceous, dehiscent at the base; 1-seeded. Often 4 of the cells are empty. (bass-wood.) *S.*

Corchorus. Sepals 4 or 5: petals 4 or 5, rather shorter than the sepals, inferior: style very short, deciduous: stigmas 2 to 5: capsule pod-like or roundish: seeds commonly numerous in each cell.

Helianthemum. Cistus. Calyx 5-sepalled, superior, 2 of them smaller: corol 5-petalled, rarely 3, sometimes abortive: capsule 1-celled, 3-valved, opening at the top: partitions contrary: seeds angular. (rock-rose, frost-plant.) *S.*

Hudsonia. Calyx tubular, inferior, unequally 5-parted; two of the divisions obsolete, colored: corol 5-petalled: stamens 15 to 30: capsule 1-celled, 3-valved, 1 to 3-seeded. (false heath.)

Portulacca. Calyx 2-cleft, inferior: corol 5-petalled: capsule 1-celled, opening transversely: columella 5, filiform. (purslane.) *S.*

Talinum. Calyx inferior, 2 or 5-sepalled: corol 5 petalled: capsule 1-celled, 3-valved, many-seeded: seeds arillate: columella globose. (talinum.) *S.*

Calandrinia. Sepals 2, inferior. persistent, united at the base; petals 3 to 5 without claws: stamens 4 to 15: style short, stigmas 3, thickish, short; capsule 3-valved. many seeded; seeds turgid, smooth and shining.

Chelidonium. Calyx 2-sepalled, caducous: corol 4-petalled: silique-like capsule 1-celled, 2-valved, linear: seeds crested, many. (celandine.) *S.*

Polanisia. Sepals 4, inferior, spreading; petals 4: stamens 8 to 32: receptacle minute, often nectariferous: pod linear, sessile or nearly so.

Glaucium. Calyx 2-sepalled, caducous: corol 4-petalled: capsule 1-celled, linear: seeds many, punctate.

Meconopsis. Calyx 2-sepalled, caducous: corol 4-petalled: style distinct; stigma 4 to 6-rayed: capsule oblong, generally prickly, 1-celled, 4 to 6-valved; columella slender. S.

Argemone. Calyx 3-sepalled, caducous: corol 4 to 6-petalled: stigma sessile, capitate, 4 to 7-lobed; capsule ovate, angular, 1-celled, opening at the top by valves; columella linear: seeds spherical, pitted. (horned poppy.) *S.*

Sanguinaria. Calyx caducous, 2-sepalled: corol about 8-petalled: stigma sessile, twinned, 2-grooved: capsule pod-like, ovate, 1-celled, 2-valved, acute at each end; valves caducous: columella 2, permanent. (blood-root.) *S.*

Podophyllum. Calyx 3-sepalled, minute: corol 5 to 9-petalled: stigma large, crenate, sessile: berry 1-celled, crowned with the stigma, large, many-seeded: columella one-sided. (wild mandrake.) *S.*

Achlys. Calyx 0: corol 0: flowers naked, disposed in a dense spike: stamens numerous; anthers in pairs, globose, somewhat 1-celled, 2-lipped: stigma dilated concave.

Actaea. Calyx inferior, 4 to 5-sepalled, caducous: corol 4 to 8-petalled: stigma sessile, capitate: berry 1-celled: seeds many, half orbicular. (necklace weed, baneberry.) *S.*

Macrotys*. Calyx about 4-sepalled, becoming colored before expanding, caducous: corol many minute petals, very caducous, or wanting: stigma simple, sessile, curving towards the gibbous side of the germ: capsule 2-valved, dehiscent at its straight suture.* (cohosh, black snake-root, bug-bane.) *S.*

Sarracenia. Calyx double, permanent, 3 and 5-sepalled: corol 5-petalled, caducous: stigma peltate, permanent, very large, covering the stamens: capsule 5-celled, 5-valved, many seeded. (side-saddle flower.) *S.*

Nuphar. Calyx 5 or 6-sepalled: petals many, minute, inserted on the receptacle with the stamens, nectariferous on their backs: stigma with a broad disk, and radiate furrows, sessile: pericarp berry-like, many-celled, many-seeded. (water lily, or yellow pond-lily.) *S.*

Nymphæa. Calyx 4 to 7-sepalled: corol many-petalled, petals about equalling the length of the sepals attached to the germ beneath the stamens: stigma a broad disk, marked with radiated lines: pericarp berry-like, many-celled, many-seeded. (pond-lily.)

Papaver. Calyx 2-sepalled, caducous: corol 4-petalled: stigma a broad disk, with radiating lines: capsule 1-celled, dehiscent by pores under the permanent stigma. (poppy.)

Chryseis.† Receptacle dilated, salver-form; limb expanded, entire: calyx mitreform, deciduous: corol 4-petalled, inserted by the claws in the throat of the receptacle, and bearing the stamens: capsule silique-form, 2-valved; seeds affixed to the margins of the valves.

Exotic.

Thea. Calyx 5 or 6-sepalled: corol 6 or 9-petalled: capsule 3-seeded. (tea.)

Citrus. Calyx 5-cleft: petals 5, oblong: filaments dilated at the base, in several parcels: berry 9 to 18-celled—Polyadelphous. (orange, lemon.)

Southern.

Bejaria. Befaria. Calyx 7-cleft: petals 7: stamens 14: capsule 7-celled, many-seeded.

Lewisia. Calyx 7 to 9-sepalled: petals 14 to 18: stamens 14 to 18: style about 3-cleft: stigmas 2-cleft; capsule 3-celled, many-seeded; seeds shining.

*Jeffersonia, Taxus, Delphinium, Monotropa.

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*I see no good reason for changing this name to Botrophis, according to Rafinesque. Our plant does not agree with the description of Actæa or Cimicifuga. I have examined it in all stages of maturing, where hundreds were growing.

†Eschscholzia.

ORDER II. DIGYNIA, TO ORDER V. PENTAGYNIA; OR DI-PENTAGYNIA.

DELPHINIUM. Calyx 0: corol 5-petalled, unequal: nectary 2-cleft, horned behind: carpels 1 to 5, pod-like. *By* some the corol is considered as the colored calyx. (larkspur.) *S.*

ACONITUM. Calyx 0: petals 5, upper one vaulted: nectaries 2, hooded, peduncled, recurved: carpels 3 or 5, pod-like. By some the corol is considered as a colored calyx. (monk's hood.) *S.*

RESEDA. Involucre many-leaved, spreading: perfect flowers central, apetalous spreading, surrounded by several petaloid, barren, flowers.

AQUILEGIA. Calyx 0: petals 5, caducous: nectaries 5, alternating with the petals, and terminating downwards in a spur-like nectary: carpels 5, erect: acuminated with the permanent styles, many-seeded. By some the nectaries are considered as petals, and the corol as a colored calyx. (columbine.) *S.*

ENEMION. Calyx 5-sepalled, petal-like, caducous: stamens with clavate filaments and rough anthers: pistils 2—6, style of the length of the germ: carpels 2 to 6, stellate, ovate, compressed: seed oval. A doubtful genus: but De Candone requires very little authority for a new genus.

RHIZOPHORA. Calyx and corol 4-parted, inferior: stigmas 2: seed 1, clavate, long, in a fleshy receptacle.

ASCYRUM. Calyx 4-sepalled; 2 interior leaflets cordate, larger: corol 4-petalled: stamens with the filaments disposed in 4 parcels: styles 1 to 3: capsules oblong, 1-celled, 2-valved, included in the calyx leaves. (st. peter's wort.) *S.*

CIMICIFUGA. Sepals 4 or 5: petals 3 to 5, concave, or unguiculate (sometimes by abortive growth fewer or none, if the genus Macrotys is included) carpels 1 to 8, follicle-like, many-seeded.

HYPERICUM. Calyx 5-parted; divisions equal, subovate: corol 5-petalled: filaments often united at the base in 3 or 5 sets: styles 2-5: capsule membranaceous, roundish, with a number of cells equal to the number of styles. The bases of the filaments are often in groups, when [illegible]ey are not united. (st. john's wort.) *S.*

ELODEA. Sepals 5, equal, somewhat united at the base: petals 5, deciduous, equal: stamens 9 to 15, polyadelphous—parcels alternating with glands: styles 3, distinct: capsule oblong, membranaceous, 3-celled.

PÆONIA. Calyx 5-sepalled: petals 5: styles 0: stigmas 2 to 5: capsules pod-like, many-seeded. Remarkable for the multiplication of petals by rich culture. (peony.)

Exotic.

NIGELLA. Calyx none: petals 5; nectaries 5, 3-cleft, within the corol: capsules 5, convex. (fennel flower.)

Southern.

CALLIGONUM. Calyx inferior, 5-parted: corol 0: filaments 12 to 16, united at the base: germ 4-cornered; styles 4: nut with a many-winged crest, 1-celled.

PLATYSTIGMA. Sepals 2 or 3-pilose: petals 4 to 6: stigmas 3, sessile, oval, somewhat spreading: capsule ovate, oblong, attenuate at the base, 3-valved, valves opening their whole length: seeds smooth and shining.

DENDROMECON. Sepals 2: petals 4: stamens numerous: stigmas 2, sessile: capsule podshaped, furrowed; valves thick and coriaceous, almost woody, opening from the base to the apex: seeds rather large and numerous, pyriform, smooth.

*Fothergillia, Juglans, Myriophyllum.

ORDER XII. POLYGYNIA.

A. *Perianth none.*

HYDRASTIS. Petals 3, ovate (by some considered a colored calyx:) berry composed of 1-seeded acines. (orange-root.) *S.*

CLEMATIS. Petals 3, 4, 5, or 6: seeds compressed: styles permanent, becoming long plumose tails. (Some species are diœcious.) (virgin's bower.) By some the corol is considered a colored calyx. *S.*

ATRAGENE. Corol double, many-petalled; outer ones largest, inner ones nectary-like, spatulate: carpels with pilose (or plumose) tails: (or petals 4 to 6, with spatulate nectaries alternating with the petals; and the outer filaments dilated.) (false virgin's bower.) *S.*

THALICTRUM. Petals 4 or 5: filaments very long: carpels without tails, striate, terete. (Some species are diœcious.) (meadow rue.) *S.* The corol is considered a colored calyx by some.

Anemone. Involucre distant from the flower, of 3 divided leaves: sepals 5 to 15 petaloid; carpels numerous, mostly awnless, sometimes awned or caudate.

Trollius. Petals 5 to 15, caducous: nectaries 5 to 20, small, tubular at the base, linear: carpels numerous, ovate, sessile, many-seeded. (globe flower.) By some the nectaries are considered corols, and the corols, calyxes.

Coptis. Petals 5 or 6, caducous: nectaries small, 5 or 6, cowled: carpels oblong, 5 to 8, stiped, stellate, beaked, many-seeded. (gold thread.) By some the nectaries are mistaken for corols, and the corols for calyxes.

Caltha. Petals 5 to 9, orbicular: carpels numerous (5 to 10,) many-seeded, compressed, 1-celled, spreading: nectaries 0: (pistils variable in number.) (american cowslip.) *S.* By some the corol is mistaken for a colored calyx.

Exotic.

Helleborus. Petals 5 or more: nectary 2-lipped, tubular: carpels 5 or 6, many-seeded, erectish, compressed. (hellebore.)

B. *Having a perianth.*

Magnolia. Calyx 3-sepalled: corol 6 to 9-petalled: carpels numerous, imbricate on a strobile-like spike, 2-valved: seeds arilled, pendulous on long cords, berry-like. (magnola or beaver-tree.) *S.*

Liriodendron. Calyx 3-sepalled: corol 6 or 9-petalled, liliaceous: seeds in a sub-lanceolate samara, imbricate on a strobile-like spike. (tulip-tree, or whitewood.) *S.*

Porcella. Asimina. Calyx 3-sepalled or 3-parted: petals 6, spreading, oblong-ovate; the inner ones smallest: anthers sub-sessile: stigmas sessile, obtuse: berries several, sessile, ovate, obtuse, many-seeded; seed arilled. (custard apple.) *S.*

Hepatica. Calyx 3-sepalled, a little distance below the corol, entire: petals 6 to 9: carpels without tails. (liverleaf.) *S.*

Ranunculus. Calyx 5-sepalled: petals 5, with claws, and a nectariferous pore or scale on the inside of each: carpels without tails, naked, numerous. (crow-foot.) *S.*

Cyrtarhyncha. Sepals 5, petaloid; narrow, spreading; petals 5, narrow and unguiculate, the claws nearly the length of the lamina, with a projecting scaly callosity at its summit: carpels collected into a spheroidal head.

Hydropeltis. Brasenia. Calyx 6-sepalled, somewhat converging; 3 or 4 inner sepals longest: corol 0: stamens equalling the length of the calyx: carpels oblong, somewhat fleshy, numerous, 2-celled, 1 or 2-seeded. The inner leaves of the calyx are considered as petals. (water-shield.) *S.*

Nelumbium. Cyamus. Calyx 4 or 5-sepalled: petals 5 or more: nuts half immersed in a truncate, obconic, very large receptacle, and crowned with a permanent style. (nelumbo.) *S.*

Exotic.

Sempervivum. Calyx 9 to 12 parted: petals 8 to 12: carpels 12, many-seeded: stamens 16 or 20. (house-leek.)

Adonis. Calyx 4—5-sepalled: petals 5 or more, without nectariferous pores: carpels awnless. (pheasant's eye.)

Southern.

Illicium. Calyx 6-sepalled: petals 27, in three series: carpels many disposed in a circle, 2-valved, 1-seeded. Sometimes 6-petalled. (anise tree.)

Annona. Calyx 3-sepalled, thickened together at the base, concave, sub-cordate, acutish: petals 6, thickish, inner smaller or none: anthers sub-sessile, at the apex, angled dilated, covering its receptacles: germs united into a sessile berry with the back muricate, scaly or reticulate, pulpy within, having 2 one-seeded cells.

Platystemon. Sepals 3, pilose: petals 6: stamens numerous: ovaries 10—14 distinct; stigmas sessile; carpels 10—14, linear, indehiscent articulated or transversely strangulated between each seed.

*Zostera.

CLASS XIII. DIDYNAMIA.

Order I. Gymnospermia.

N. B. The fruit of plants of this order (called naked seeds by Linneus) are now considered as nuts. They are generally 4 in number, surrounding the base of the style in a permanent calyx.

A. *Calyx 5-cleft, with the divisions, or teeth, nearly equal.*

Teucrium. Corol deep-cleft on the upper side, and without an upper lip; lower lip 3-cleft, the middle division rounded: stamens and pistils incurved; stamens exsert through the cleavage on the upper side of the corol. (wood sage, wild germander.) *S.*

Mentha. Corol nearly equal, 4-lobed; broadest division emarginate: stamens erect. distant. (spearmint, peppermint.) *S*

Isanthus. Calyx somewhat bell-form: corol 5-parted; tube straight, narrow; divisions ovate equal: stamens nearly equal: stigma linear, recurved. (blue-gentian.)

Hedeoma. Calyx 2-lipped, gibbose at the base, upper lip with 3 lanceolate teeth; lower lip with 2 subulate ones: corol ringent: 2 short stamens barren. (pennyroyal.) *S.*

Cunila. Calyx cylindric, 10-striate, 5-toothed, throat villose: corol ringent; upper lip erect, flat emarginate: 2 of the stamens usually barren and very short; the other two exsert: stigma unequally bifid. (dittany.)

Hyssopus. Corol with the under lip 3-parted, its intermediate divisions sub-crenate: stamens straight, distant. (hyssop.) *S.*

Nepeta. Calyx dry, striate: corol with a longish tube: under lip with the middle division crenate: throat with a reflected margin: stamens approximate. (catmint.) *S.*

Lamium. Segments of the calyx subulate, spreading: corol with the upper lip entire, vaulted; under lip 2-lobed; throat with a tooth at each margin. (dead nettle.) *S.*

Galeopsis. Calyx awned: corol with the upper lip sub-crenate, vaulted; lower lip unequally 3-lobed, having 2 teeth on its upper side near the margin of the orifice, and opposite to the sinuses dividing the lobes. (Flowering nettle.)

Stachys. Calyx with its divisions awned: corol with the upper lip vaulted; the lower lip 3-lobed; the middle divisions largest, emarginate; the lateral divisions reflexed: stamens reflexed towards the sides after discharging the pollen. (wound-wort, hedge nettle.) *S.*

Verbena. Calyx with one of the teeth truncate: corol funnel-form, with a curved tube; border 5-cleft, nearly equal: nuts 2 or 4, pericarp thin and evanescent; sometimes 2 stamens are barren. (vervain.) *S.*

Marrubium. Calyx salver-form, rigid, marked with 10 lines: corol with the upper lip 2-cleft, linear, straight. (horehound.) *S.*

Glechoma. Calyx 5-cleft: corol double the length of the calyx; upper lip 2-cleft; lower lip 3-cleft, with the middle segment emarginate: each pair of anthers approaching so as to exhibit the form of a cross. (ground ivy, gill-overground.)

Pycnanthemum. Involucre bract-like, many leaved; under small heads of flowers; calyx tubular, striate: corol with the upper lip sub-entire; lower lip 3-cleft; middle segment longer: stamens distant, nearly equal; cells of the anthers parallel. (mountain mint.) *S.*

Exotic.

Leonurus. Calyx 5-angled, 5-toothed: corol with the upper lip erect, villose, flat, entire; lower lip 3-parted; middle division undivided: lobes of the anthers parallel, having shining dots. (mother-wort.) *S.*

Lavandula. Calyx ovate, sub-dentate; bracts under-studded: corol resupinate: stamens in the tube. (lavender.)

Ballota. Calyx salver-form, 5-toothed, 10-striate: corol with the upper lip concave, crenate: nut ovate, 3-sided. (false mother-wort.)

Satureja. Calyx tubular, striate: corol with divisions nearly equal: stamens distant. (savory.)

Molucella. Calyx very large, bell or shell-form; margin repand spinose: corol much smaller, in the bottom of the calyx. (shell-flower, molucca balm.)

Southern.

Ajuga. Corol with the upper lip minute and 2-toothed: stamens longer than the upper lip: anthers all reniform, 1-celled.

Synandra. Calyx 4-cleft: segments unequal, subulate, inclined to one side: upper lip of the corol entire and vaulted; lower one unequally 3-lobed: throat inflated, naked: upper pair of anthers cohering, with the adjoining cells empty: filaments downy.

Leucas. Calyx 10-striate, 6 to 10-toothed: upper lip a bearded helmet, entire; lower one long, 3-cleft; middle segment largest: lobes of the anthers spreading: stigma shorter than the upper lip.

Hyptis. Calyx 5-toothed: corol 2-lipped; upper lip 2-lobed, lower one 3-lobed, with the middle lobe calyx-like, involving the stamens and style until it becomes reflexed: stamens declined.

B. *Calyx 2-lipped.*

Clinipodium. Involucre many-bristled, bract-like, under head-form whorls: perianth 2-lipped: corol with the upper lip flat, obcordate striate. (field thyme.)

Origanum. Calyxes collected into a 4-sided strobile-like cone, with broad intervening bracts: corol with the upper lip erect, flat, straight, emarginated: under lip 3-parted, divisions nearly equal. (marjoram.)

Dracocephalum. Calyx sub-equal, 5-cleft: corol with the throat inflated; the upper lip concave, the middle division of the lower lip roundish, notched: stamens unconnected. (dragon-head.) *S.*

Prunella. Calyx with the upper lip dilated: filaments 2-forked, with an anther on one of the points: stigma 2-cleft. (self-heal, or heal-all.) *S.*

Scutellaria. Calyx bell-form, finely dividing at the base; lips entire, the upper one with a helmet-form appendage (or cap) on the back, deciduous: corol bilabiate, upper lip vaulted, lower one dilated, convex; tube bent, exsert. (scull-cap.) S.

Trichostema. Calyx resupinate: corol with the upper lip falcate; the under lip 3-parted, with the middle division small, oblong: filaments very long-exsert, incurved or coiled. (blue-curls.) *S.*

Phryma.* Calyx cylindric, upper lip longer, 3-cleft; lower lip 2-toothed: corol with the upper lip emarginate: lower lip much larger: nut single. (lopseed.) *S.*

Exotic.

Thymus. Calyx sub-campanulate, with the throat closed with hairs: corol with the upper lip flat, emarginate: lower lip longer. (thyme.)

Melissa. Calyx dry, flattish above, with the upper lip sub-fastigiate: corol with the upper lip somewhat vaulted, 2-cleft: lower lip with the middle lobe cordate. (balm.)

Ocymum. Calyx with the upper lip orbiculate, the lower one 4-cleft: corol resupinate; one lip 4-cleft, the other undivided: outer filaments sending out a process from the base. (sweet basil.)

Southern.

Macbridea. Calyx top-form, 3-cleft, 2 segments large: corol 2-lipped; the upper entire, the under 3-parted: anthers 2-lobed: the lobes srpeading, fringed with small spines.

Calamintha. Calyx closed with hairs after flowering: throat of the corol somewhat inflated; upper lip emarginate; lower one 3-parted, middle segment somewhat emarginate, or entire.

Ceranthera. Calyx 2-lipped, the upper lip emarginate, the lower one 2-cleft: upper lip of the corol 2-lobed, the lower one 3-parted: stamens exsert; anthers horizontal, awned at each end.

Tullia. (1) Calyx with the upper lip 3-toothed, lower one 2-toothed, teeth appendaged: corol 2-lipped, with the upper lip very entire, lower one 3-parted, middle division largest.

*Lycopus, Monarda, Salvia, Collinsonia, Linnaea.

Order II. Agiospermia.

A. *Calyx 2-cleft, or 2-sepalled.*

Obolaria. Calyx bract-like: corol 4-cleft, bell-form: capsule 1-celled, 2-valved, many-seeded: stamens from the divisions of the corol nearly equal: stigma 2-cleft or emarginate. (penny-wort.) *S.*

Castilleja. Calyx spathe-form, upper lip 2-cleft, lower one wanting: corol 2-lipped: lower one very short, 3-cleft, with 2 glands between the divisions: capsule 2-celled. *S.*

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*When the seed approaches maturity, the calyx closes upon it, which has induced some authors to remove it to the next order. But the Scutellaria presents nearly the same character. Other genera approach it also, in this particular. It is, in my opinion, an unnecessary innovation.

(1) By M. C. Leavenworth, in honor of Dr. W. Tully, Prof. Botany, &c. in Yale College.

B. *Calyx 4-cleft.*

Schwalbea. Calyx tubular-inflated; upper division small; lower division large, emarginate, or 2-toothed: corol ringent, upper lip entire, arched: lower lip 3-lobed: capsule ovate, compressed, 2-celled, 2-valved, with a double partition; seeds many, chaffy. (chaff-seed.) *S.*

Euchroma. Calyx inflated, 2 or 4-cleft: corol 2-lipped; upper lip long-linear, embracing the style and stamens: anthers linear, with unequal lobes, cohering so as to form an oblong disk: capsule ovate, compressed, 2-celled: seeds numerous, sorrounded with an inflated membrane. S.

Bartsia. Calyx lobed, emarginate, colored: corol less than calyx: upper lip longest, concave, entire; lower lip 3-cleft and reflexed: anthers with equal lobes, not cohering: capsule 2-celled: seed angled. (painted cup.)

Rhinanthus. Calyx inflated: corol ringent: the upper lip mostly compressed: the under lip spread, 3-parted: capsule 2-celled, obtuse, compressed. (yellow coxcomb.)

Melampyrum. Corol with the upper lip compressed, the margin folded back: lower lip grooved, 3-cleft, sub-equal: capsule 2-celled, oblique, dehiscent on one side: seeds 2, cylindric, gibbous, cartilaginous and smooth. (cow-wheat.) S.

Southern.

Lantana. Flowers in a head; calyx obsoletely 4-toothed: border of the corol 4-lobed, unequal, throat open: stamens within the tube: stigma hooked: drupes aggregated; nut 2-celled, even, 2-seeded,

Euphrasia. Calyx cylindric: corol 2-lipped; the upper lip 2-cleft; lower lip 3-lobed, with the divisions 2-cleft: lower anthers lobed, spinose. (eye-bright.)

Orthocarpus. Calyx tubular, somewhat 4-cleft: corol 2-lipped, closed; upper lip smaller, compressed; margin inflexed; lower lip concave, obsoletely 3-toothed, unexpanded: lobes of the anthers unequal, spreading: capsule straight-ovate, 2-celled, 2-valved, many-seeded.

C. *Calyx 4 or 5-cleft, or 5-toothed; plant without green herbage.*

Orobanche. Calyx 4 or 5-cleft; segments often unequal: corol ringent: capsule ovate, acute, 1-celled, 2-valved: seeds numerous: a gland beneath the base of the germ. (broom rape.) *S.*

Epiphegus. Polygamous. Calyx abbreviated, 5-toothed: corol of the barren flowers ringent, compressed, 4-cleft: lower lip flat: of the fertile flowers minute, 4-toothed, caducous: capsule truncate, oblique, 1-celled, imperfectly 2-valved, opening on one side. (beech-drops, cancer root.)

D. *Calyx 5-cleft or 5-sepalled: plant with green herbage.*

Zapania. Flowers capitate: calyx 5-toothed: corol 5-lobed; stigma head-peltate, oblique: pericarp bladder-like, vanishing, connecting the two seeds. (fog-fruit.) *S.*

Avicennia. Calyx 5-parted: corol 2-lipped the upper lip square: capsule coriaceous, rhomboid, 1-seeded, seed germinating within the capsule.

Herpestris. Calyx unequal, 2-bracted at the base: corol tubular, somewhat 2-lipped: stamens included: capsule 2-valved, 2-celled: partitions parallel with the valves. *S.*

Limosella. Calyx 5-cleft: corol 4 or 5-lobed, equal; stamens approaching each other by pairs: capsule 1 or 2-celled, 2-valved, many-seeded. (mudwort.)

Scrophularia. Calyx 5-cleft: corol sub-globose, resupinate: lips short, middle division of lower lip reflexed: capsule 2-celled. (Generally a stamen-like organ is attached to the corol.) Corol dull purplish, green, or brown. (figwort.) *S.*

Bignonia. Calyx 5-toothed, cup-form, sub-coriaceous; corol bell-form, 5-lobed, ventricose beneath: capsule silique-like, 2-celled: seed membrane-winged. (trumpet-flower.) *S.*

Ruellia. Calyx 5-parted, often 2-bracted; corol somewhat bell-form, limb 5-lobed: stamens approaching by pairs: capsule tapering to both ends, toothed, elastically dehiscent: seeds few. (ruel.) *S.*

Buchnera. Calyx 5-toothed: corol with a slender tube, and the limb in 5 equal divisions, the lobes cordate: capsule 2-celled. (blue hearts.) *S.*

Antirrhinum. Calyx 5-sepalled or deeply 5-parted; the two lower divisions remote; corol personate or ringent, spurred, or with a prominent base; the throat closed with a prominent palate: capsule ovate, 2-valved, dehiscent at the apex, with reflexed teeth. (snapdragon, toad-flax.) *S.*

Collinsia. Calyx 5-cleft: corol 2-lipped, throat closed: upper lip 2-cleft; lower one 3-cleft: intermediate segment keeled, bag-like, and covering the declined stamens and style: capsule globose, somewhat 1-celled and 4-valved. Seeds 2 or 3, umbilicate.

Conradia. Calyx 5-cleft, foliaceous: corol monopetalous, cylindrical, sub-equal, 5-toothed at the apex, teeth reflexed: stamens 4, scarcely declined, sub-equal, long-exsert: style very long: stigma minute: capsule short-ovate, 2-celled, many-seeded.

Gerardia. Calyx 5 cleft or 5-toothed: corol sub-campanulate, unequally 5-lobed; segments mostly rounded: capsule 2-celled, dehiscent at the top. (false-foxglove.) *S.*

Pedicularis. Calyx ventricose, 2, 3, or 5-cleft or obliquely truncate: corol ringent; upper lip arched, emarginate and compressed: capsule 2-celled, mucronate, oblique: seeds numerous, angular coated. (Leaves many-cleft.) (lousewort, high heall-all.) *S.*

Mimulus. Calyx prismatic, 5-toothed: corol ringent: upper lip folded back upon its sides, lower lip with a prominent palate: stigma thick, 2-cleft: capsule 2-celled, many-seeded; seeds minute. (monkey-flower.) *S.*

Chelone. Calyx 5-cleft or 5-sepalled, 3-bracted: corol ringent, inflated: the upper lip emarginate-obtuse, under lip slightly 3-cleft; the rudiment of a smooth filament between, and shorter than the two tallest stamens; anthers woolly: capsule 2-celled, 2-valved: seeds with membranaceous margins. (snake-head.) *S.*

Pentstemon. Calyx 5-cleft or 5-sepalled: corol sub-ringent, inflated; the rudiment of a bearded filament between, and longer than the two tallest stamens: anthers smooth: capsule 2-celled, 2-valved, ovate; seeds numerous, angular. (Taken from the last genus.) (beard tongue.) *S.*

Martynia. Calyx 5-cleft: corol ringent, almost bell-form: capsule woody and barked, with a hooked beak, 4-celled, 2-valved. (unicorn-plant.) *S.*

Exotic.

Digitalis. Calyx 5-parted: corol bell-form, ventricose, 5-cleft: stigma simple or bilamellate: capsule ovate, 2-celled. (Flowers racemed.) (foxglove.)

Southern.

Capraria. Calyx 5-parted: corol somewhat bell-form, 5-cleft, nearly equal: capsule 2-valved, 2-celled, many-seeded.

Seymeria. Calyx 5 parted nearly to the base: corol bell-wheel-form, almost equally 5-lobed: stamens sub-equal, near the throat: anthers oblong, naked: style declined: capsule inflated, ovate, acute, 2-celled, 2-valved, opening at the top.

Sesamum. Calyx 5-parted: corol bell-form, 5-cleft, with the lower lobe largest: stamens with the rudiment of a fifth: stigma lanceolate: capsule obtusely 4-angled, 4-celled. (oily grain.)

*Catalpa, Gratiola, Elytraria.

CLASS XIV. TETRADYNAMIA.

Order I. Siliculosa.

A. Pleurorhiza.* *Seed with the radicle on its side. Cotyledons flat, accumbent: seed compressed, often margined.*

Lunaria. Silicle entire, oval, flat-compressed, pedicelled; valves equalling the partition, parallel, flat: calyx consists of colored sack-like sepals. (honesty, or satin-flower.)

Vesicaria. Silicle globose, inflated, with hemispheric valves; seeds more than 8, sometimes margined: petals entire.

Alyssum. Silicle orbicular or oval, with valves flat or convex in the centre: seeds 2 to 4 to each cell: calyx equal at the base: petals entire; some of the stamens toothed.

Draba. Silicle oval-oblong, many-seeded: valves flattish, parallel to the partition: petals entire or bifid: seeds not margined: filaments without teeth: style none. Cotyledons accumbent. (whitlow-grass.) *S.*

Cochlearia. Silicle thick, rugose, many-seeded, 2-valved: valves gibbous, obtuse; partition nearly parallel to the valves: calyx equal spreading: petals 2-parted: stamens toothless: style short or none. (horse-radish, water-radish.)

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*Gr. *pleura* (side) '*riza* (root.)

Thlaspi. Silicle emarginate at the apex, valves keel-form, winged on the back: cells two, many-seeded: petals equal: calyx equal at the base. Flowers white.

Hutchinsia. Silicle oval, valves keel-form, wingless; cells 2-seeded, rarely more: calyx equal: petals equal.

Iberis. Corol irregular, the two exterior petals longest: silicle emarginate, many-seeded. (candy-tuft.)

Cakile. Silicle 2-jointed, compressed, upper joint ensiform or ovate: seed single in each cell, upper one erect, lower one pendulous, often abortive. Includes Bunias.

B. Notorhiza.† *Seed with the radicle never on the side; generally on the back. Cotyledons flat, incumbent: seed ovate, not margined.*

Camelina. Silicle obovate or sub-globose, valves ventricose, dehiscent with part of the style: cells many-seeded: style filiform: seed oblong emarginate.

Platypetalum. Silicle oval, many-seeded; valves convex: styles very short: calyx a little spread: laminas of the petals dilated.

Oreas. Calyx equal at the base, lax: petals entire, unguiculate, equal: filaments equal, not toothed: style very short, stigma capitate: silicle lanceolate, compressed, 1-celled (having no partition) valves flattish, marked at the middle nerve: seeds many, with the umbilical cord elongated.

Platyspermum. Silicle oval, compressed at the back, flat, stigma sessile: seeds few, with broad margins. Scapes numerous, 1-flowered.

Eutrema. Silicle or rather silique ancipital, valves carinate: seeds not margined.

Lepidium. Silicle ovate or sub-cordate; valves keeled or rarely ventricose, dehiscent, cells 1-seeded: seeds somewhat 3-sided or compressed. (Cotyledons rarely accumbent.)

Capsella. Thlaspi bursa-pastoris. Silicle wedge-triangular, valves keel-form, not winged; cells many-seeded. (shepherd purse.)

Hymenolobus. Silicle ovate or elliptical, membranaceous; valves somewhat tumid; slightly carinate, wingless, cells many-seeded: stigma sessile.

Thysanocarpus. Silicle obovate, plano-convex, broad-winged at both margins, emarginate at the apex, 1-celled, one-seeded: seed broad-obovate, pendulous. Flowers small, white.

Isatis. Silicle compressed, oblong, ligulate, valveless, 1-seeded: partition like lattice work. (woad.)

Southern.

Coronopus. Silicle reniform, compressed, wrinkled: cells valveless, 1-seeded.

Subularia. Silicle entire, ovate: valves ovate, concave, (convex without:) stigma sub-sessile: seed linear, 2-plaited. Cotyledons incumbent.

ORDER II. SILIQUOSA.

A. Pleurorhiza. *Seed with the radical on its side. Cotyledon flat, accumbent: seed compressed, often margined.*

Cheiranthus. Calyx closed, two of the sepals gibbous at the base: petals dilated: silique, when young, with a glandular tooth each side: stigma 2-lobed: seed flat, sometimes margined. (stock-july-flower, wall-flower.) *S.*

Nasturtium. Silique teretish, abbreviated or declined: stigma somewhat 2-lobed: calyx equal at the base, spreading: seeds small, irregularly in two series, without margins.

Barbarea. Silique 4-sided, (and 2-edged) valves without any process at the apex, concave-keeled: seeds arranged in a single series: calyx equal at the base.

Turritis. Silique linear, valves flat: seeds in each cell in a double series: calyx converging erect: corol erect. (tower mustard.)

Arabis. Silique linear: valves flat, 1-nerved in the middle: seeds in each cell in one series, oval or orbicular, compressed: cotyledons flat. (wall-cress.)

Pachypodium. Silique somewhat terete elongated, torulose on a short thick stipe: seeds in a single series, oblong, scarcely marginal: calyx nearly erect, equal at the base: glands 4, at the base of the stamens: petals narrow, on very long claws.

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†Gr. *notos* (back) '*riza* (root.)

Cardamine. Silique linear: valves flat nerveless, often bursting elastically with revolute valves: seed ovate, without margin, having a slender umbilical funicule. (american water-cress.)

Dentaria. Calyx longitudinally converging: silique lanceolate, bursting elastically, with flat, nerveless, revolute valves: the partition thick and fungus-like: stigma emarginate; seeds in a single series, ovate, not margined. Funicule dilated: (Roots sharp-tasted, fleshy, with tooth-like processes.) (tooth-root, trickle-root.) *S.*

Parrya. Silique broad-linear, valves more or less distinctly veined, flat; seeds somewhat in two series, cuticle of the testa lax, margin broad: umbilical funicule adnate to the partition above: lobes of the stigma approximate.

Phoenicaulis. Calyx colored, nearly equal at the base; much shorter than the entire unguiculate petals; silique ensiform, acuminate, flat, not opening elastically; the cells about 3-seeded; valves with a prominent central nerve; seeds large, in a single series, not margined.

Leavenworthia. Calyx somewhat erect, equal at the base; petals equal, cuneiform, truncate or emarginate; filaments distinct, toothless; silique sessile, oblong-linear, compressed, somewhat inflated, and contracted between the seeds; valves indistinctly nerved; style distinct or almost none; stigma minutely bidentate; seeds in a single series, flattened, with a broad-winged margin; funicules free.

Streptanthus. Calyx erect, colored: petals dilated; having twisted, channelled claws: glands none: stamens with filaments subulate, and thickened at the base: silique very long, angled, compressed: seeds in one series, flat, margined: cotyledons accumbent.

B. Notorhiza. *Seed with the radicle never on the side, generally on the back. Cotyledons flat, incumbent; seed ovate, not margined.*

Hesperis. Calyx closed, furrowed at the base, shorter than the claws of the petals: petals bent obliquely, linear or obovate: silique 4-sided, 2-edged, or sub-terete: seeds not margined: stigmas forked, with converging apexes. Cotyledons flat. (rocket.)

Sisymbrium. Silique teretish above the prominence, sessile: stigmas 2, sub-distinct or connate in a head: calyx equal at the base: seed ovate or oblong: cotyledons flat, sometimes oblique; stamens toothless.

Tropidocarpum. Silique linear or lanceolate-linear, compressed contrary to the septum; valves somewhat carinate: septum very narrow, often incomplete; seeds oblong, compressed, not margined; sepals equal at the base.

Erysimum. Silique 4-cornered: calyx closed: cotyledons flat, oblong.

Braya. Silique short, terete, torulose, terminated by the style or stigma: valves sub-semicylindric: stigma flattish; partitions split in the middle; seeds under six in each cell: calyx equal at the base, divisions erect.

Stanleya. Silique teretish above the prominence, pedicelled: seeds oblong, teretish: calyx spreading.

Warea. Silique 2-celled, stiped, flat, with a seed-bearing margin both sides: seed flattish, striate: calyx deflected, caducous, colored: petals with long claws, spreading.

Brassica. Calyx erect, converging: partition extending beyond the valves of the silique: seed globose; glands between the short stamens and pistil, and between the long stamens and calyx. (cabbage, turnip.)

Sinapis. Calyx spreading: corol with strait claws: glands between the short stamens and pistil, and between the long stamens and calyx: partition extending beyond the valves of the silique, ensiform: seeds in a single series. Cotyledons conduplicate. (mustard.)

Raphanus. Calyx closed, setose: silique torose, terete, not opening by valves, 1 or 2-celled: glands between the short stamens and pistil, and between the long stamens and calyx. Cotyledons conduplicate. (radish.)

CLASS XV. MONADELPHIA.

Order III. Triandria.

Sisyrinchium. Spathe 2-leaved: perianth 0: corol superior, 6-cleft or 6-petalled, tubular: style 1: stigma 3-cleft: capsule 3-celled. (blue-eyed grass.) *S.*

Exotic.

Tigridia. Spathe 2-leaved: perianth 0: petals 6, the 3 outer large: filaments united into a very long tube: flowers spotted.

*Pistia.

Order V. Pentandria.

Passiflora. Calyx 5-parted, colored: corol 5-petalled, on the calyx: nectary, a triple filamentous crown, within the petals: gourd-like berry, pedicelled. (passion-flower.) *S.*

Exotic.

Erodium. Calyx 5-sepalled; corol 5-petalled; nectariferous scales 5, alternating with the filaments: carpels 5, 1-seeded, awned; beaked at the base of the receptacle; awn spiral, bearded within. (Taken from the geranium.) (stork's bill.)

Southern.

Philoxerus. Calyx 5-parted: corol none: stamens united at the base into a small entire cup, shorter than the germ: anthers 1-celled: stigmas 2: bladder-like capsule membranaceous, 1-seeded, valveless.

Achyranthes. Calyx double, membranaceous, permanent, outer 3-sepalled, inner 5-sepalled, unequal: stamens standing on the nectary, with segments between them: capsule 1-seeded, covered by the converging calyx.

Oplotheca. Calyx double, outer 2-sepalled, scarious, convolute, truncate; shorter than the inner—inner 1-sepalled, muricate, somewhat 5-cleft, with a dense down: corol none: nectary cylindric, 5-toothed, bearing the stamens: stigma simple, capitate, hairy; bladder-like capsule 1-seeded, inclosed in the calyx.

*Anagallis, Lysimachia, Linum, Petalostemon.

Order VII. Heptandria.

Exotic.

Pelargonium. Calyx 5-parted, upper divisions broader, ending in a capillary nectariferous tube: corol 5-petalled, irregular; the two upper petals usually broader, with colored veins: filaments 10, three of them usually without anthers: carpels 5, each 1-seeded, awned; some of the awns spiral. (stork geranium.)

Order VIII. Octandria.

Southern.

Pistia. Spathe tubular-hooded, strap-like; corol none: filaments lateral; anthers 3 to 8: style 1: capsule 1-celled, many-seeded.

*Polygala, Cardiospermum.

Order X. Decandria.

Geranium. Calyx 5-sepalled: corol 5-petalled, regular: nectariferous glands 5, adhering to the base of the 5 alternating long filaments: carpels 5, 1-seeded, awned, beaked at the elongated top of the receptacle; awn naked or smooth within, strait. (cranebill, false crowfoot, herb-robert.) *S.*

Southern.

Acacia. Mimosa. Polygamous. Calyx tubular, 5-toothed: petals 5: stamens 5 to 10, exsert: pod 1-celled, 2-valved.

Darlingtonia. Flowers perfect: petals 5, distinct: stamens 5 to 10, sub-exsert: legume bivalve, juiceless, small-seeded, lanceolate-falcate: calyx bell-form, 5 to 7 toothed.

Schrankia. Mimosa. Polygamous. Calyx tubular, 5-toothed: petals 5: stamens 8 to 10, exsert: pod 4-valved.

*Oxalis.

Order XII. Polyandria.

Sida. Calyx simple, angular, 5-cleft: rarely with one setaceous bract: style many-parted: carpels many, arranged circularly, 1-celled, 1 or 3-seeded. (Pedicel articulated under the apex.) (Indian mallows.) *S.*

Sphæralcea. Calyx 5-cleft, with 3 setaceous bracts at the base: carpels numerous, aggregated in a sub-globose head, 2-valved, 2 or several seeded.

Abutilon. Calyx 5-cleft, without bracts; carpels 5 or more, 2-valved; 3, rarely 4 or 6-seeded.

Althæa. Calyx double; outer one 6 or 9-cleft: carpels many, arranged circularly, 1-seeded. (hollyhock.)

Malva. Calyx double, outer one 3-sepalled, inner one 5-cleft: carpels many, arranged circularly, 1-celled, 1-seeded. (mallows.) *S.*

Malvaviscus. Calyx surrounded by a many-leaved involucre: petals erect, convo late: stigmas 10: carpels 5, 1-seeded, sometimes sub-distinct, and often united in 5-celled fruit.

Hibiscus. Calyx double, outer one many-sepalled; inner one about 5-cleft: stigmas 5: capsule 5 or 10-celled, many-seeded. (marsh mallows.) S.

Exotic.

Lavatera. Calyx double, outer one 3-cleft: carpels many, many-seeded. (tree-mallows.)

Gossypium. Calyx double, outer one 3-cleft: capsule 4-celled: seeds involved in wool. (cotton.)

Southern.

Malope. Calyx double, outer 3-sepalled: carpels 1-seeded, irregularly aggregated.

Stuartia. Calyx 5-parted: petals 5: stigma somewhat 5-lobed, capitate: capsule 5-celled, 5-valved; cells 1 or 2-seeded; seeds ovate, bony.

Hopea. Calyx 5-cleft, superior: petals 5: stamens numerous, united in 5 groups: style 1: drupe 3-celled, with 2 of them often empty. (yellow-leaf.)

Nuttallia. Callirhoe. Calyx simple, 5-cleft; capsules numerous, 1-seeded, united in a ring.

Styrax. Calyx bell-form, generally 5-toothed, inferior: corol 5 to 7-parted, on the calyx: drupe? coriaceous, with 1 or 2, 1-seededn uts: stamens 6 to 16, on the throat of the corol, united at the base; anthers oblong, linear. (storax tree.)

Halesia. Calyx 4-toothed, superior: corol 4-cleft: nut covered with bark, 4-sided, 2 or all the angles winged; 2 to 4celled, 2 to 4-seeded. (snowdrop tree.)

Gordonia. Calyx simple, 5-sepalled, connate at the base: style 5-sided; stigmas 5: capsule 5-celled, 5-valved: receptacle columnar: cells 2-seeded; seeds winged.

*Pinus.

CLASS XVI. DIADELPHIA.

Order V. Pentandria, to Order VIII. Octandria, or Pentoctandria.

Corydalis. Sepals 2, caducous: corol 1-spurred at the base: capsule pod-like, 2-valved; few or many-seeded: style persistent.

Fumaria. Sepals 2, deciduous: corol 1-spurred, or gibbous at the base: fruit a 1-seeded, sub-globose, nut: style deciduous. (fumitory.) *S.*

Dielytra. Sepals 2, deciduous: corol 2-spurred or saccate at the base: capsule pod-shaped, many-seeded.

Adlumia. Sepals 2: petals united into a spongy persistent, monopetalous corol, bi-gibbous at the base, 4-lobed at the apex: capsule pod-shaped, linear-oblong, many-seeded.

Polygala. Calyx 5-sepalled, permanent, unequal; 2 of them wing-like, larger, colored: corol irregular, (or rather, calyx 3-sepalled, corol imperfectly papilionaceous:) capsule obcordate, 2-celled, 2-valved. Keel of the corol sometimes appendaged: seeds hairy. (snake-root, milk-wort, low century, mountain flax.) *S.*

Southern.

Petalostemon. Petals 5, nearly equal; 4 of them alternating with the stamens, and uniting with them in a cleft tube: legume 1-seeded, included in the calyx.

*Gleditschia.

ORDER X. DECANDRIA.

A. *Legume without transverse divisions or partitions; seeds numerous.*

(Stigma pubescent.)

Pisum. Calyx with the divisions leaf-like, about equal: banner protruding 2 folds: style compressed, carinate, villose above: legume without down at the suture. (pea.)

Lathyrus. Calyx with the two upper divisions shorter: style flat, villose above, broader towards the top. (Stem mostly winged, leaflets 2 or more, terminated by a divided tendril.) (sweet pea.) *S.*

Vicia. Calyx emarginate above, 2-toothed; 3 straight long teeth below: banner emarginate: style bearded transversely on the lower side beneath the stigma. (vetch.) *S.*

Ervum. Calyx 5-parted: divisions linear, acute, about equalling the corol: stigma capitate, hairy on all sides, (Torrey;) glabrous, (Persoon:) legume oblong, 2 to 4-seeded. (creeping vetch.)

Astrophia. Calyx campanulate, 5-cleft; the 2 upper segments a little shorter: style flat, linear, pubescent along the inside: legume broadly-oblong, compressed, few-seeded.

Vexillaria. Calyx tubular, 5-cleft at the summit. the upper and lateral segments triangular-ovate, acuminate; the inferior segment narrower: banner large, somewhat orbicular, emarginate or bifid, not spurred on the back: keel small, shorter than the wings, incurved, acute, on very long claws: style longitudinally bearded or hairy, more or less dilated at the apex: legume stipitate, linear or linear-oblong, flattish, torulose, pointed with the base of the style: thickened along the sutures; the valves nerveless and wingless. (butterfly weed.) *S.*

Centrosema. Calyx short, broadly campanulate, 4 or 5-cleft: banner large, broadly orbicular, with a short obtuse spur behind; keel semi-orbicular, scarcely shorter than the wings, incurved, obtuse, on very short claws: stamens monodelphous, or partly diadelphous: style glabrous, dilated at the apex; stigma barbulate: legume nearly sessile, linear compressed, subulate with the style; somewhat thickened along the sutures; the valves marked on each side with a longitudinal nerve next the margin.

Southern.

Orobus. Styles linear: corol long: calyx obtuse at the base; upper segments deeper, and generally shorter. (bitter vetch.)

Phaca. Keel obtuse: style beardless; stigma capitate: legume 1-celled, somewhat turgid; upper suture swollen and seed-bearing within.

(Stigma not pubescent.)

Phaseolus. Stamens nine connected and one separate: legume many-seeded; not articulated: stigma not hairy: cotyledons thick, which are changed into succulent leaves in germinating.

1. **Sub Genus.** **Phaseolus** (Euphaseolus.) Calyx 2-lipped, upper one 2-toothed, lower one 3-parted: keel with the stamens and style spirally twisted: legume compressed.

2. S. G. **Strophostyles.** (1) Calyx 2-lipped, upper one 2-toothed, lower one 3-parted: keel with the stamens and pistils spirally twisted: legume terete.

3. S. G. **Amphicarpa.** (1) Calyx 4-toothed, teeth equal, sub-obtuse: style filiform, stigma capitate: germ with its base sheathed.

4. S. G. **Rhynchosia,** (1) Calyx 5-cleft, somewhat 2-lipped: the separate filament geniculate at the base: style filiform: legume compressed, 2-seeded.

5. S. G. **Wistaria.** (1) Calyx somewhat 2-lipped; upper lip with 2 short teeth, lower one in 3 subulate lobes: keel bicuspidate: a tubular nectary surrounds the stipe of the germ.

6. S. G. **Apois.** (1) Calyx with 4 obsolete teeth; one acute, elongated under the falcate keel, which bend back the top of the banner; stipe of the germ sheathed at the base.

Remark. As Dr. Torrey has disposed of these sub-genera on a plan which almost approves; they will not be altered.

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(1) Glycine, L.

Galactia. Calyx 4-toothed, 2-bracted: petals all oblong: banner broader, incumbent: anthers oblong: stigma obtuse: germ on a naked stipe: legume terete: seeds many, roundish. (milky-way plant.) *S.*

Robinia. Calyx small, bell-form, 4-cleft, upper division 2-parted: banner large, reflexed, roundish: legume compressed, elongated, many-seeded: seeds compressed, small. (locust-tree.) *S.*

Astragalus. Calyx 5-toothed: keel of the corol obtuse: legume with a longitudinal half-breadth partition, attached to one edge, incurved at the suture below. (milk vetch.) *S.*

Tephrosia. (Galega.) Calyx without bracts, sub-equal, 5-toothed: banner of the corol large, roundish, silky or pubescent, entire, reflex-spreading: wings keeled, obtuse, adhering: stamens variously connected, monadelphia or diadelphia: style filiform, stigma terminal: legume often sessile, flat-compressed, linear, many-seeded: seeds compressed. (goat's rue.)

Medicago. The keel deflected from the direction of the banner: legume compressed, spiral. (lucerene clover, medick.) *S.*

Hosackia. Bentham. Calyx bell-form, 5-cleft: the spreading wings of the corol almost equalling the banner: keel beaked: style filiform; stigma capitate: legume cylindric or sub-compressed, striate, smooth.

Exotic.

Colutea. Calyx 5-cleft with the keel obtuse: style bearded on its back through its whole length: legume inflated, opening on the upper suture at the base. (bladder senna, bush locust.)

Southern.

Indigofera. Calyx spreading: keel with a subulate spur both sides; legume linear, small, terete or quadrangular. (indigo.)

Glycyrrhiza. Liquiritia. Calyx tubular, equal, 5-parted, gibbous at the base: banner erect, reflexed at the sides, including the other petals; wings spreading, keel 2-cleft: legume oblong, sub-ovate, compressed, generally hispid, 2 to 6-seeded. (Flowers racemed.) (liquorice.)

Oxytropis. Keel terminating above in a subulate appendage: legume with a longitudinal half-breadth partition, attached to one edge; the upper suture inflexed.

Trigonella. Banner and wings sub-equal, spreading, resembling a 3-petalled corol: legume often curved, compressed. (fenu-greek.)

Lupinaster. Calyx bell-form, 5-toothed: teeth setaceous, one under the keel: stigma hooked: legume terete, without joints.

B. *Legume without transverse divisions or partitions; seeds few or single.*

Melilotus. Flowers racemed: calyx tubular, 5-toothed: keel simple, shorter than the wings and banner: legume rugose, longer than the calyx, or about as long. (Taken from the trifolium.) (melilot clover.) *S.*

Trifolium. Flowers sub-capitate: legume included in the calyx, not opening by valves, 1 to 4-seeded. (Leaves always ternate.) (clover.) *S.*

Homalobus. Calyx 5-toothed, keel obtuse: style short recurved: legume linear or oblong, much compressed, several seeded, the sutures neither introflexed nor tumid; funicule very long.

Southern.

Dolichos. Banner with two oblong parallel callous processes at the base, compressing the wings beneath them. (cowhage.)

Dalea. Calyx half 5-cleft: corol partly papilionaceous; wings and keel adnate to the undivided column of stamens: legume 1-seeded, included in the calyx.

Psoralea. Calyx 5-cleft or 5-toothed; lower segments mostly elongated: legume the length of the calyx, 1-seeded, somewhat beaked, valveless.

Kentrophyta. Calyx campanulate, deeply 5-cleft, the segments nearly equal: banner oblong, reflexed: keel petals obtuse, cohering along the back, shorter than the wings, ovate, membranaceous or leathery, 1 or 2 seeded.

C. *Fruit or loment in several joints, or in a single seeded piece.*

Hedysarum. Calyx 5-cleft: keel of corol transversely obtuse: loment many-jointed; joints 1-seeded, truncate, compressed, generally hispid. Plants mostly with ternate leaves. (bush clover.) *S.*

Lespedeza. Calyx 5-parted, 2-bracted; divisions nearly equal: keel of the corol transversely obtuse: legume lens-form, unarmed, 1-seeded. (Leaves always ternate. Taken from the hedysarum.) (bush clover.) *S.*

Aeschynomene. Calyx 2-lipped, lips toothed: stamens united in two equal parcels: loment compressed, one suture straight, the other lobed; joints truncate, 1-seeded. (false sensitive plant.) *S.*

Stylosanthes. Calyx tubular, very long, bearing the corol, which originates higher than the top of the germ: loment one or two-jointed, hooked. (pencil flower.) *S.*

Chapmannia. Flowers of 2 kinds? Sterile flower: calyx with 2-bracteoles at the base: the tube very long and slender, the lowest tooth longest, and remote from the others: banner roundish; keel boat-form, nearly as long as the banner, bifid at the summit: stamens monadelphous, alternately longer; ovary sessile, with 2 or 3 ovules always sterile: style filiform, very long; stigma capitate, minutely glabrous.

Exotic.

Coronilla. Calyx 2-lipped: petals with claws: loment teretish, jointed: flowers in umbels: seeds generally cylindric. (coronilla.)

Cicer. Calyx 5-parted, of the length of the corol, 4 upper divisions resting on the banner: legume turgid, 2-seeded; seeds gibbose, mucronate. (chick-pea.)

Southern.

Zornia. Calyx inferior, bell-form, 2-lipped: banner cordate, revolute: anthers 5 oblong and 5 globose: loment jointed, hispid.

Sesbania. Calyx 5-toothed: legume elongated (terete or linear) divided into many cells (or loment joints) by transverse partitions.

Agati. Calyx campanulate, truncate, slightly bilabiate; the upper lip with 2, the under with 3, short, obtuse, broad teeth: banner oval-oblong, shorter than the oblong wings; keel large, falcate: stamens diadelphous, slightly protruded; the sheath with large auricles at the base; legume short-stiped, linear, elongated, a little compressed, many-seeded, much contracted, and with transverse partitions between the seeds, but not jointed: seed oval.

D. *Stamens united in one set.*

Amorpha. Calyx somewhat bell-form, 4 or 5-cleft: banner ovate, concave: wings and keel 0: legume 1 or 2-seeded, falcate. (false-indigo.) *S.*

Lupinus. Calyx 2-lipped: anthers 5 oblong and 5 roundish: legume coriaceous, torulose. (lupine.) *S.*

Crotalaria. Corol with the banner cordate, large: keel acuminate, the membrane formed by the united filaments, has a fissure on the back: style curved: legume pedicelled, turgid. (rattle-box.) *S.*

Genista. Calyx 2-lipped, 5-toothed, 2 upper teeth very short: banner oblong, reflexed back from the pistil and stamens. (kneed-grass, dyer's broom.)

Exotic.

Spartium. Calyx extended downwards: keel generally pendant: filaments adhering to the germ: stigma villose lengthwise on the upper side: legume oblong, 1 or many-seeded. (Spanish broom.)

Ulex. Calyx 2 sepalled, 2-bracted: stamens all united: legume scarcely longer than the calyx, spinose. (furze.)

Arachis. Calyx 2-lipped: corol upside down: legume gibbous, torulose, veiny, coriaceous. (pea-nut.)

Southern.

Erythrina. Calyx somewhat 2-lipped, various: banner long-lanceolate: legume torulose, many-seeded. (corol tree.)

Pitcheria. Calyx tubular; somewhat 2-lipped, 5-cleft, divisions subulate: upper lip bifid, equal to the lower one: wings narrow, subulate, one-toothed: style filiform, ascending; legume oblong, 2-seeded, scarcely exceeding the calyx.

*Baptisia, Cercis, Virgilia, Cassia.

CLASS XVII. SYNGENESIA.

Order I. Polygamia Aequalis.

A. *Florets ligulate.*

Cichorium. Involucre surrounded with scales: receptacles naked or slightly veined: egret sessile, scaly, shorter than the pericarp. (succory, or endive.)

Apargia. Involucre imbricate: receptacle naked, punctate: egret plumose, sessile, unequal. (Taken from the Leontodon.) (false hawk-weed.)

Lapsana. Involucre sub-cylindric, scaly from the few leaves at the base: receptacle naked: the stony fruit oblong, tapering at the base: egret none.

Leontodon. Involucre double, imbricate, with flexible leafets: receptacle naked: egret stiped. (dandelion.) *S.*

Prenanthes. Heads few-flowered, nodding: involucre cylindric, with scales at the base: akenes sub-terete, not beaked: egret in several series, scabrous: receptacle naked. (white lettuce.) *S.*

Lactuca. Involucre imbricate, cylindric, with the margin of the scales membranaceous; receptacle naked: egret simple, stiped: akenes smooth. (lettuce.) *S.* Flowers mostly nodding.

Nabalus. Flowers nodding: involucre cylindrical, 5 to 12-flowered, with erect scales in one series which bear small scales from the base.

Lygodesmia. Involucre 5-leaved, tubulated; furnished from the base with many very short imbricate scales; leafets ligulate keeled, scarious at the margin: receptacle scrobiculate: florets 5: anthers 2-toothed at the base: bony akenes linear, compressed, furrowed, simple at the apex: egret capillary; rays in various order, tooth-scabrous or plumose.

Sonchus. Involucre imbricate, swelling at the base: egret pilose, sessile: receptacle naked. (swine thistle.) *S.*

Hieracium. Involucre imbricate, ovate: egret simple, sessile: receptacle naked, punctate, or sub-pilose. (From white becoming yellowish.) (hawk-weed.) *S.*

Crepis. Involucre with scales at the base, scales laxish: receptacle naked: egret pilose, sub-stiped. Beyond R. M.

Krigia. Involucre simple, many-leaved: receptacle naked: egret 5 to 8 membranous leaves, with 5 to 25 scabrous, alternating bristles: receptacle naked. (dwarf dandelion.) *S.*

Exotic.

Tragopogon. Involucre simple, many-leaved: receptacle naked; egret plumose and stiped. (goat's beard, vegetable oyster.)

Southern.

Borkhausia. Involucre with scales at the base, becoming rib-furrowed, outer scales loose: receptacle naked: egret stiped, pilose.

Troximon. Involucre oblong, conic, many-leaved: leafets unequal, imbricate: receptacle naked, puncticulate: egret sessile, pilose.

Apogon. Involucre 8-leaved, in a double series: receptacle naked: egret none.

B. *Florets tubulous; flower capitate.*

Arctium. Involucre globose, with scales hooked at the apex: egret chaff-bristly: receptacle chaffy. (burdock.) *S.*

Onopordon. Involucre imbricate, with sharp mucronate spreading scales: egret pilose, scabrous, caducous: receptacle alveolate: akene transversely sulcate. (cotton thistle.)

Cnicus. Involucre swelling, imbricate, with prickly scales: receptacle villose: egret caducous, plumose. (thistle.) *S.*

Carduus. Involucre ovate, imbricate with prickly scales: receptacle villose: egret pilose. (comb-tooth thistle.)

Saussurea. Involucre sub-cylindric, scales imbricate, beardless: receptacle setose or chaffy: egret in two series; outer series short, filiform; inner long and plumose: anthers cordate sub-entire; bony akenes glabrous.

Pyrrocoma. Egret in one series longer than the flower, fulvous, scabrous: limb of the corol not distinct from the tube: involucre leaves in many series, lax; inner leafets membranaceous entire, outer ones foliaceous spine-toothed.

Liatris. Involucre imbricate, oblong: anthers entire at the base: akenes hairy, obconic: egret permanent, plumose, colored: receptacle naked: (flowers purple.) (gay feather.) *S.*

Vernonia. Involucre imbricate, ovate: egret double, exterior chaffy and short, interior capillary: receptacle naked: stigma 2-cleft, shortish. (flat-top.) *S.*

Exotic.

Carthamus. Involucre ovate, imbricate with scales, ovatish-leafy at the apex: egret chaff-hairy or none: receptacle chaff-bristly. (false-saffron.)

Cynara. Receptacle bristly: involucre dilated, imbricate, scales with fleshy bases, emarginate and pointed: egret plumose, sessile. (garden artichoke.)

Ammobium. Sepals imbricated, colored, radiated: anthers with 2 bristles at the base: chaffs of the receptacle distinct: egret a toothed edge.

Southern.

Stokesia. Involucre foliaceous, sub-imbricate: florets of the ray funnel-form and irregular: receptacle naked: egret 4-bristled.

Stevia. Involucre cylindric, from a simple series of leafets: receptacle naked: egret chaff-bristled.

Brickellia. Involucre many-leaved, imbricate: receptacle naked, dotted: egret hairy or scabrous: akenes nearly glabrous, 10-streaked.

C. *Florets tubulous; flower discoid.*

Kuhnia. Involucre imbricate, cylindrical: egret plumose, sessile: receptacle naked: akenes hairy, finely striated. (false boneset.) *S.*

Eupatorium. Involucre imbricated (rarely simple) oblong: style long, cloven half way down: egret pilose, scabrous, or rough papillose: receptacle naked: akenes smooth and glandular, 5-striate. (boneset, thorough-wort, joe-pye.) *S.*

Mikania. Involucre 4 or 6 leaved, equal: 4 to 6-flowered: receptacle naked: egret pilose. (climing boneset.) *S.*

Chrysocoma. Involucre imbricate, oblong or hemispheric: style scarcely exsert: receptacle naked: egret pilose, scabrous: akenes hairy. (golden locks.) *S.*

Cacalia. Involucre cylindric, oblong, somewhat scaly at the base: receptacle naked: egret pilose. (Leaves mostly succulent. (wild caraway.) *S.*

Sparganophorus. Involucre sub-globose, imbricate, with unequal scales recurve-spreading at the tips: receptacle naked: akenium with the cup-like crown sub-cartilaginous, shining. (crown-cup.) *S.*

Hymenopappus. Involucre many-leaved, spreading; leafets sub-oval, colored: receptacle naked: egret chaffy, many-leaved (5 to 8?) segments very short, obtuse, awnless.

Polypteris. Involucre many-leaved, spreading; leafets sub-oval, colored: receptacle naked: egret chaffy, about 12-valved; valves rigid and cuspidate, the length of the akenium.

Melananthera. Involucre imbricate; leafets ovate, close-pressed, sub-equal: receptacle chaffy; scales keeled, the lower part embracing the florets: egret consisting of 4 or 5 unequal, unarmed awns.

Marshallia. Involucre imbricate; scales sub-lanceolate, incumbent: receptacle chaffy: egret 5, membranaceous, acuminate, nerveless scales.

Santolina. Involucre imbricate, hemispherical; scales keeled, having scarious points: receptacle chaffy: egret none.

Exotic.

Ageratum. Receptacle naked: egret with 5 somewhat awned scales (chaffs:) leaves of the calyx oblong, in a double row: corols 4 or 5-cleft.

ORDER II. POLYGAMIA SUPERFLUA.

A. *Flowers discoid; the ray-florets being obsolete.*

Tanacetum. Involucre imbricate, hemispheric: scales acuminate: rays obsolete, 3-cleft: egret somewhat marginal: receptacle naked. (Flowers corymbed.) (tansy.)

Omalanthus. Heads various in stamens and pistils in flowers surrounding in one series; in the rest perfect and fertile: bony akenes wingless, 4-cornered: egret crowning and repand: corols of staminate and perfect flowers glabrous, flat-compressed, 2-winged, 3-crenate: rachis without bracts.

Artemisia. Involucre imbricate, ovate, with scales rounded, converging: ray-florets subulate: egret 0: receptacle somewhat villose, or nakedish. (Flowers mostly rounded.) (wormwood, southern-wood.) *S.*

Baccharis. Involucre-scales ovate, sub-coriaceous, imbricate, cylindric, bell-form or ovate: pistillate and perfect florets intermixed: receptacle naked: egret pilose. (Sometimes the flowers are diœcious.) (groundsel-tree.) *S.*

CONYZA. Involucre imbricate, with scales sub-linear-ovate, or hemispheric and sub-scarious: egret simple, capillary: receptacle naked: florets of the ray with a 3-cleft border, not composing a ray in appearance. (plowman's wort.) *S.*

GNAPHALIUM. Involucre imbricate, with the marginal scales rounded, scarious, shortish, glossy, colored: receptacle naked: egret pilose or plumose, scabrous: florets of the ray subulate, of the disk entire. Sometimes all the florets are perfect. (life-everlasting.) *S.*

ANTENNARIA. Heads dioecious or sub-dioecious: rachis wholly without bracts: egret in one series, in the staminate clavate at the apex: style either very simple or shortly bifid.

Southern.

PTEROCAULON. Involucre imbricate, with close-pressed, downy, sub-scarious scales: receptacle naked: perfect and pistillate florets intermixed; the pistillate ones slender; border 3-toothed: perfect ones with a 5-cleft border: egret hairy, scabrous: akenes angled, hairy.

B. *Flowers radiate; the ligulate ray-florets very manifest.*

(Receptacle naked.)

TOWNSENDIA. Ray florets ligulate, disk florets perfect, regular: leafets of the involucre imbricate in several series: egret in one series, short in the rays; chaff subulate, unequal; pilose in the disk, hairs enlongated somewhat scabrous.

MADIA. Ray florets in one series: corol of the rays ligulate, with the laminae longer than the tube: bony akenium erose, compressed, 4-sided, 4-ribbed: disk small, epigynous.

ERIGERON. Involucre imbricate, sub-hemispherical: egret pilose, double; outer egret minute and chaffy: florets of the ray linear, very narrow, numerous. (flea-bane, pride-weed.) *S.*

DIPLOPAPPUS. Rays in one series: egret in 2 series: corols of the disk regular: bony akenium erose.

INULA. Involucre imbricate, generally squarrose; egret simple, scabrous, sometimes a minute exterior chaffy one: anthers ending in 2 bristles at the base: ray-florets numerous. Ray-florets always yellow. (elecampane.)

ASTER. Involucre imbricate, the inferior scales generally spreading: egret simple, pilose: receptacle often deep-pitted. Florets of the ray more than 10, except in solidaginoides, and a few other species: color purple or white, never yellow. (star-flower.) *S.*

EURYBIA. Ray florets fertile: leafets of the involucre closely imbricate: disk herbaceous, narrow at the apex: tube and limb of the florets of the disk severed: bony akenium elongated, prismatic, glabrous or pubescent: egret simple, somewhat rigid, permanent, scabrous: receptacle alveolate.

GALATELLA. Pistillate rays sterile: the leafets of the narrow involucre are narrow, the herbaceous nerve under the apex not expanded: bony akenium cornered, densely hirsute or herbaceous: egret somewhat rigid, dense, scabrous: receptacle torn-alveolate.

SERIOCARPUS. Leafets of the involucre broad, sub-cartilaginous at the base, closely imbricate, abruptly herbaceous at the apex, and mostly spreading: florets of the disk few, cylindrically conic: tube and limb passing into each other: bony akenium short, ob-pyramidal, dense, silky: egret simple, a little rigid, permanent: receptacle narrow, alveolate, irregular.

TRIPOLIUM. Leafets of the involucre interior ample, membranaceous, colored, close-pressed; exterior decrease into the peduncle: bony akenium cunei-form, compressed, somewhat glabrous: egret simple, capillary, dense, nodular-scabrous: receptacle alveolate.

SOLIDAGO. Involucre oblong or sub-cylindric, with oblong, narrow, pointed, strait scales, imbricate, closed upon the flower: ray-florets about 5, and fewer than 10; lanceolate, 2-toothed, equal to, or shorter than, the involucre: filaments capillary, very short: style thread-form, equalling the length of the stamens: stigma cleft, spreading: egret simple, pilose, scabrous: receptacle furrowed with dots or punctures: akenes oblong-ovate. (Yellow.) (golden rod.) *S.*

ARNICA. Involucre hemispherical, with the leafets equal, longer than the disk: receptacle naked: egret simple, hairy: florets of the ray often without anthers. Ray-florets yellow. *S*

Senecio. Involucre cylindric: leafets with withering, blackish tips, and a few small scales at the base: egret simple, capillary, copious. Ray-florets sometimes wanting. (rag-wort, fire-weed.) *S.*

Cineraria. Involucre simple, many-leaved, equal: egret simple. *S.*

Tussilago. Involucre simple, swelling; scales equal, and equalling the disk, sub-membranous: pistillate florets ligulate or without teeth: egret simple, sessile. (Sometimes polygamous.) (coltsfoot.)

Nardosmia. Heads sub-dioecious: staminate surrounded with one series of pistillate rays; pistillate homogamous: pistillate with ligulate corols: egret pilose, the staminate less copious than the pistillate.

Boltònia. Involucre imbricate: florets of the ray numerous: receptacle conic, punctate: egret consists of many minute bristles and generally 2-elongated bristles or horns: akenium flat, margined. (false chamomile.) *S.*

Chrysanthemum. Involucre hemispherical, imbricate, with the scales membranous at the margin: egret none, or a narrow margin. (ox-eyed daisy, fever-few.) *S.*

Blepharipappus. Ray few-flowered, the corols broad wedge-form, deeply 3-cleft: egret chaffy, about 8, linear acuminate, fringe-ciliate: rachis bracted.

Pyrethrum. Bony akenium, wingless, angled: egret crown-like, diameter of the bony akenium about equalling it: flowers of the disk 5-toothed, thick, often flat-compressed, 2-winged: rays ligulate-oblong; styles of the disk not branched.

Exotic.

Bellis. Involucre hemispherical; scales equal: egret 0: receptacle conical: akenium obovate. (garden daisy.)

Tagetes. Involucre simple, 1-leafed, 5-toothed, tubular: florets of the ray about 5, permanent: egret 5 erect awns. (marigold.)

Matricaria. Involucre flat, imbricate, with scales having scarious margins: receptacle naked, terete: egret none.

Southern.

Brachyris. Involucre cylindric-ovate, closely imbricate: scales agglutinated together; ray and disk florets about 5 to each: receptacle naked: egret very short, chaffy: glumes 5 to 8, permanent.

Crinitaria. Little head discoid, many-(or few-) flowered: rachis without bracts; egret pilose in two series: bony akenium not beaked, compressed, silky.

Donia. Involucre hemispherical, imbricate, squarrose, glutinous: ray-florets 30 or more, (yellow:) receptacle naked, deep-pitted: egret consists of 3 or 4 caducous, somewhat chaffy, bristles.

Boebera. Involucre double: outer one many-leaved: inner one 8-leaved: receptacle naked: egret pilose.

Tricophyllum. Involucre oblong-cylindric, many-leaved, equal: ray florets oblong: receptacle naked: egret chaffy, minute, 5 to 8-leaved: leafets obtuse, awnless.

Chrysopsis. Involucre imbricated: (ray florets mostly yellow;) anthers naked at the base: receptacle naked: egret double; outer chaffy, minute: inner scabrous, many rayed: akenium obovate, villose.

Pectis. Involucre 5-leaved: ray-florets 5: receptacle naked: egret 3 to 5 awns.

(Receptacle chaffy or hairy.)

Verbesina. Involucre many-leaved; leafets arranged in double series: florets of the ray about 5: egret 2-awned. (crown-beard.) *S.*

Anthemis. Involucre hemispherical: scales with scarious margins, nearly equal: egret 0, or a membranous margin: florets of the ray more than 5: receptacle chaffs flat, with a rigid acuminate apex: akenium crowned with a membranous border, or egret. (may-weed, chamomile.) *S.*

Achillea. Involucre imbricate, ovate, unequal: egret 0: florets of the ray 5 to 10, roundish, dilated. (Flowers corymbed.) (yarrow.) *S.*

Espeletia. Involucre imbricate, sub-squarrose, foliaceous: corols of the pistillate flowers scarcely toothed: receptacle flat, chaffy: egret 0: akenes compressed, flattish, somewhat 4-sided.

Heliopsis. Involucre imbricate, with ovate-linear lined scales. ray florets linear, large: receptacle chaffy, conic; the chaffs lanceolate: akenes 4-sided: egret 0. (sun-ray.) *S.*

HELENIUM. Involucre 1-leaved, many-parted: egret 5-awned chaffy leaves: receptacle globose, naked in the disk, and chaffy in the ray only: florets of the ray half-3 cleft: akenes villose. (Leaves decurrent.) (false sunflower.) *S.*

Exotic.

DAHLIA. Receptacle chaffy: egret none: calyx double, outer one many-leaved; inner one 1-leaved, 8-parted.

Southern.

ZINNIA. Involucre cylindric-ovate, imbricate: rays 5, entire, permanent; receptacle chaffy: egret 2-erect awns.

STARKEA. Involucre imbricate: receptacle hirsute: egret simple, sessile, scabrous.

ECLIPTA. Involucre many-leaved, sub-equal: disk-florets mostly 4-cleft: ray-florets very narrow, numerous: receptacle bristly: egret none: akenes rugose, 2-edged, somewhat 4-sided.

SIEGESBECKIA. Outer involucre 5-leaved, spreading: inner one many-leaved, 5-angled, sub-equal; rays on one side of the flower only: receptacle chaffy; egret none: akenes somewhat 4-sided.

ACMELLA. Involucre simple, leafets few; receptacle oblong, chaffy; akenes 4-sided, truncate at the summit, naked.

TETRAGONOTHECA. Involucre 1-leaved, 4-sided, 4-parted, very broad: receptacle chaffy: egret none.

ACTINELLA. Involucre many-leaved, sub-equal, flat: ray-florets (8 to 20) 3-toothed, widening towards the extremity: receptacle naked, hemispherical: egret chaffy: 5 to 8-awned glumes.

BUPHTHALMUM. Involucre leafy: egret marginal, 4-toothed or obsolete: akenes of the ray margined, and sometimes of the disk. (ox-eye.)

ORDER III. POLYGAMIA FRUSTRANEA.

HELIANTHUS. Involucre imbricate, sub-squarrose, leafy: receptacle flat, chaffy: egret 2-leaved, chaff-like, caducous. (sunflower, jerusalem artichoke.) *S.*

RUDBECKIA. Involucre consisting of a double order of leafets or scales: receptacle chaffy, conic: egret a 4-toothed margin, or 0. (cone-flower.) *S.*

CALLIOPSIS. Bony akenium ob-compressed wholly bald, curved within, truncate at the apex, narrowly 2-winged, disk minute epigynous; wings similar, colored, very entire: styles of the disk with truncate branches, pencilled at the apex.

WYETHIA. Involucre polyphyllous, sub-squarrose, foliaceous: receptacle chaffy, flat: egret deformed, very short, chaffy, many-leaved, and solitary bristles in the disk of the lateral plants.

BIDENS. Involucre with bracts at the base, nearly equal, with or without ray-florets: receptacle flat, chaffy: egret consists of 2, 3, or 4 strong awns, with reflexed and erect lateral prickles: akenes 4-cornered. (burr-marygold, beggar-ticks.) *S.*

COREOPSIS. Involucre double, both many-leaved (8 to 12:) inner ones many-leaved, sub-coriaceous and colored: akenes compressed, emarginated, 2-toothed; receptacle chaffy, flat: egret 2-horned. (tick-seed sunflower.) *S.*

ACTINOMERIS. Involucre simple, many-leaved, leaves sub-equal: rays remote elongated. (4 to 8:) receptacle small, chaffy: the leafets embracing the margin of the akenes: akenes compressed, margined; crowned with 2 permanent awns. *S.*

Exotic.

CENTAUREA. Involucre various, mostly imbricate, roundish: egret simple, various: receptacle bristly; corols of the ray funnel-shape, longer, irregular. (blue-bottle, blessed thistle.)

Southern.

LEPTOPODA. Involucre simple, many-parted, rays 20 or more, 3-cleft, widening at the top: receptacle naked, hemispherical: egret consists of 8 to 10 awnless chaff-like valves.

BALDUINA. Involucre imbricate, squarrose-leafy: ray-florets somewhat 3-cleft: receptacle hemispherical, horn-like, cellular: egret chaffy, awnless, erect, about 10-leaved: akenes immersed in the receptacle.

GALARDIA. Involucre many-leaved, flat, sub-equal: rays 3-cleft, widening towards the top: receptacle bristly, hemispherical: egret chaffy: leafets 8 to 10, awned.

ORDER IV. POLYGAMIA NECESSARIA.

SILPHIUM. Involucre squarrose: scales leafy, broad: egret a 2-horned margin: receptacle chaffy: akenes compressed, obcordate, margined, 2-toothed. (ragged-cup.) *S.*

POLYMNIA. Involucre double; exterior 4 or 5-leaved; interior 10-leaved; leafets concave: egret 0: receptacle chaffy. (leaf-cup.) *S.*

IVA. Involucre about 5-leaved or 5-parted; styles 2, long: akenes obovate, naked, obtuse: receptacle hairy, or chaff-bristly: ray 5-flowered. (high-water shrub.) *S.*

Exotic.

CALENDULA. Involucre many-leaved, equal: receptacle naked: egret none: akenes of the disk membranaceous. (pot marygold.)

Southern.

CHAPTALIA. Involucre sub-imbricated, many-leaved: pistillate florets in two series: outer ones rayed; inner ones naked: disk florets 2-lipped: receptacle naked: egret capillary.

PARTHENIUM. Involucre 5-leaved: rays very small; receptacle chaffy, minute; outer scales dilated: akenes obovate, minutely 3-awned.

CHRYSOGONUM. Involucre 5-leaved: receptacle chaffy: egret 1-leaved, 3-toothed: akenes surrounded by a 4-leaved calycle.

BALTIMORA. Involucre cylindric, many-leaved: rays 5: receptacle chaffy: egret none: akenes 3-sided.

GYMNOSTYLUS. Involucre many-leaved, the leaflets in a single series: pistillate florets apetalous: akenes compressed, somewhat toothed at the summit, awned with the permanent styles.

ORDER V. POLYGYAMIA SEGREGATA.

ELEPHANTOPUS. Partial involucre, 4-flowered, florets 5-cleft, ligulate, perfect: receptacle naked: down setaceous. (elephant-foot.) *S.*

Exotic.

ECHINOPS. Proper involucre 1-flowered: corol tubular, perfect: receptacle setose: egret obsolete. (globe thistle.)

CLASS XVIII. GYNANDRIA.

ORDER I. MONANDRIA.

A. *Anther adnate, sub-terminal, not caducous; masses of pollen affixed by the base, and made up of angular particles.*

ORCHIS. Corol ringent: lip broad entire, spurred at the base on the under side: pollinia pedicellate: glands of the pedicels contained in one common little pouch.

PLATANTHERA. Corol vaulted, lips narrow, entire, spurred at the base: cells of the anther widely divided at their base, by the broad interposed stigma: pollinia pedicelled: glands of the pedicels naked.

HABENARIA. Corol ringent: lips dilated, toothed, lobed or fringed, spurred at the base: pollinia pedicellate: glands of the pedicels naked, distant.

B. *Anther parallel with the stigma; not caducous; masses of pollen affixed to the summit of the stigma, and made up of farinaceous or angular particles.*

GOODYERA. Corol ringent-like, the 2 lower petals placed under the gibbous lip, which is undivided above: style free: constituent particles of the masses of pollen angular. (rattlesnake-leaf, scrophula weed.) *S.*

NEOTTIA. Corol ringent-like, the 2 lower petals placed under the lip, which is beardless; interior petals converging: style wingless: constituent particles of the masses of pollen farinaceous. (ladies' tresses.) *S.*

LISTERA. Corol irregular: lip pendant, 2-lobed: style wingless, minute, with the anther inserted at its base: pollen farinaceous. (lily orchis.) *S.*

Southern.

CRANICHIS. Corol 5-petalled, resupinate, sub-ringent: lip behind, vaulted: pollen farinaceous.

C. *Anther inserted, terminal, not caducous: masses of pollen farinaceous or angular.*

Pogonia. Petals 5, distinct, without glands: lip sessile, hooded, crested internally: pollen farinaceous. (snake-mouth.) *S.*

Triphora. Petals 5, distinct, equal and converging, without glands: lip unguiculate, cowled: styles spatulate, even flattened, wingless: pollen farinaceous. (three bird orchis.) *S.*

Cymbidium. Calopogon. Petals 5, distinct: lip behind, (or inverted,) unguiculate: the lamina bearded: style free: pollen angular. (grass-pink.) *S.*

Arethusa. Petals 5, connate at the base: lip below, growing to the style, cowled above, crested within: pollen angular. (arethusa.) *S.*

D. *Anther moveable, terminal, caducous: masses of pollen at length becoming wax-like.*

Tipularia. Petals spatulate, spreading: lip entire, sessile, conspicuously spurred below at the base: style wingless, lengthened, free: anthers in the form of a lid, permanent; masses of pollen 4, parallel. (limodore.) *S.*

Malaxis. Petals 5, narrower than the lip, spreading or deflexed; lip flattened, undivided, sessile, often exterior: style lengthened: masses of pollen 4, parallel, affixed to the summit of the stigma. Flower turned upside down by the twisting of the peduncle when the corol opens. (tway-blade.) *S.*

Microstylis. Petals 5, converging, one only deflexed; 2 inner ones filiform: lip about equalling the petals in length, erect, sessile, concave, truncate, and 2-toothed at the summit: style very minute: masses of pollen 3. (snake-mouth tway-blade.) *S.*

Corallorrhiza. Petals equal, converging: lip either unguiculate, or with an obsolete spur: masses of pollen 4, oblique, not parallel: style free. (corol root.) *S.*

Aplectrum. Petals equal, converging: lip unguiculate, not spurred or extended at the base: masses of pollen 4, oblique, lenticular: situated below the summit of the style. (putty root, Adam and Eve.)

Southern.

Bletia. Petals 5, distinct: lip sessile, cowled, somewhat spurred at the base: style free: masses of pollen 4 to 8, 2-lobed.

Calypso. Petals ascending, 1-sided: lip inflated, spurred beneath towards the point: style dilated, petal-like: masses of pollen 4.

Epidendrum. Masses of pollen 4, parallel, separated by a permanent partition: each mass with a granulated elastic filament at the base: style united lengthwise with the claw of the lip into a tube.

ORDER II. DIANDRIA.

Cypripedium. Calyx colored, 4-sepalled, spreading: corol 0. (by some the calyx is called a corol:) nectary large, hollow, inflated: style with a terminal lobe, and petal-like appendage on the upper side. (ladies' slipper.) *S.*

ORDER V. PENTANDRIA.

Plants bearing seeds in follicles; and pollen in masses, called pollinia.

Asclepias.* Petals 5, reflexed: nectaries 5, concave, erect, containing little horns: each stamen with a pair of pendulous masses of pollen, suspended from the top of the stigma: follicles smooth. (milk-weed, silk-weed.) *S.*

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*Plants of this artificial order (Natural order Apocyneae of Jessieu) were placed in class Pentandria, order Digynia, by Linneus. The celebrated James Edward Smith, shewed us the propriety of removing them to the class Gynandria. Afterwards a mistake, committed by that distinguished naturalist, Robert Brown, induced botanists to continue them in the class Pentandria, without questioning his accuracy—a case in point, showing the danger of great men's errors. *The stamens certainly proceed from the stigma only, in all stages of maturity, in the Asclepias syriacus.* This I know from careful observations made under a high magnifying power for the last dozen years. The naked masses of glutinous pollen resembling the same in the family of Orchideae, may be worthy of our attention also.

Acerates. Corol reflexed: nectary 5-leaved; leafets concave, short, close-pressed to the angles of the filaments: each stamen with a pair of pendulous masses of pollen: follicle smooth. Corol 3 or 4 times as long as the calyx, with purple tips. *S.*

Apocynum. Corol bell-form: stamens with converging anthers, proceeding from the middle of the stigma and alternating with 5 nectaries: stigma thick, almost sessile; follicles in pairs, long-linear. (dogbane, indian hemp.) *S.*

Gonolobus. Corol wheel-form, 5-parted: nectary simple, cylindric, somewhat fleshy, 5-lobed, depressed; equal with the cases of the anthers, 5-angled, without winged lateral margins or terminal membranaceous bristles: masses of pollen in 5 pairs, even transverse: follicles 2. (false choak-dog.) *S.*

Periploca. Calyx minute, 5-cleft, permanent: corol wheel-form, flat, 5-parted: nectary pitcherform, 5-cleft, putting out 5 threads, surrounding the stamens: style 1: stigma capitate, 5-cornered: follicles in pairs, inflated: seed comose. (milk vine.)

Exotic.

Hoya. Corol 5-cleft: pollen masses fixed by the base, conniving, compressed: stigma depressed with an obtuse wart: follicles smooth: seeds concave.

Southern.

Podostigma. Anatherix? Stigma on a stipe: masses of pollen 10, smooth, pendulous: nectary 5-leaved; leaves compressed: corol bell-form: follicles smooth.

Enslenia. Calyx small, 5-parted; permanent: corol 5-parted: segments converging, erect: nectary 5-parted, petal-like, divided almost to the base: segments truncate, flat, each terminated by 2 central filaments: each stamen with a pair of pendulous cylindric masses of pollen, suspended from the top of the conic stigma: follicles in pairs, small.

Cynanchum. Calyx 5-toothed, small, permanent: corol wheel-form: nectary simple, cylindric, 5 to 20-lobed, surrounding the orifice of the tube: each stamen with a pair of pendulous masses of pollen suspended from the double stigma: follicles in pairs: seed comose.

Echites. Contorted. Calyx 5-parted, small: corol salver-form: border 5-cleft, orifice naked: anthers rigid, acuminate, converging in the form of a cone, proceeding from the middle of the ring-like 2-lobed stigma: follicles in pairs, very long and straight: seed comose.

Amsonia. Calyx 5 parted: corol funnel-form, orifice closed: follicles in pairs, erect: seed terete, naked, and obliquely truncated.

*Passiflora.

Order VI. Hexandria.

Aristolchia. Calyx 0: corol superior, 1-petalled, ligulate, inflated at the base: capsule 6-celled, many-seeded. (birthwort.) *S.*

*Cleome.

Order X. Decandria.

Asarum. Calyx somewhat bell-form, 3 or 4-cleft, superior: corol 0: anthers proceeding from the middle of the filaments: stigma 6-cleft: capsule coriaceous, 6-celled, crowned with the calyx. (wild ginger, or white snake-root.) *S.*

*Calla, Arum, Zostera.

CLASS XIX. MONOECIA.

Order I. Monandria.

Zostera. Calyx and corol 0: stamens and pistils in 2 rows on the side of a spadix: spathe leaf-like. Staminate flowers with anthers ovate sessile, alternating with the germs. Pistillate flowers with the germ ovate; style 2-cleft; drupe 1-seeded. (grass wrack, sea eel-grass.) *S.*

Caulinia. Staminate flowers—calyx 0: corol 0: anthers sessile. Pistillate flowers—calyx 0: corol 0: style filiform: stigma 2-cleft: capsule 1-seeded. (Flowers axillary.) (river nymph.) *S.*

Zannichellia. Staminate flowers—calyx and corol 0. Pistillate flowers—calyx 1-sepalled: corol 0: style 1, stigma peltate: little carpels about 4, each 1-seeded.

Chara. Staminate flowers—calyx 0: corol 0: anthers globose, sessile. Pistillate flowers—calyx 0: corol 0: style 0: stigmas 5: berry 1-celled, many-seeded. (chara.) *S.*

Euphorbia.† Involucre perianth-like, inflated, with alternating petal-like segments. Staminate florets 12 or more, at the base of the stipe of the pistillate flower, each consisting of an anther united to a pedicel by a filament. Pistillate flower central, single, stiped; with 3 two cleft styles: capsule 3-lobed. (caper, spurge.) *S.*

Najas. Staminate flowers—calyx cylindric, 2-cleft: stamen filamentous, long: anther 4-valved: valves spreading. Pistillate flowers—calyx 0: style 1, with 2 stigmas: nut 4-seeded.

ORDER II. DIANDRIA.

Podostemum. Staminate flowers—calyx 0: corol 0: stamens affixed to a pedicel. Pistillate flowers—calyx 0: corol 0: germ ovate: stigma 1, sessile: capsule 2-celled, 2-valved, many-seeded; seeds minute. (thread-foot.) *S.*

Lemna. Staminate flowers—calyx 1-sepalled: corol 0: stamens seated on the base of the germ. Pistillate flowers—calyx 1-sepalled: corol 0: style cylindric: stigma funnel-form: capsule 1-celled, 2 to 4-seeded. Always perfeclty monoecious in North America. (duck-meat, water-flaxseed.) *S.*

*Salicornia, Hippuris, Callitriche, Calla, Platanus, Arum, Fraxinus.

ORDER III. TRIANDRIA.

Typha. Ament cylindric, dense-flowered. Staminate flowers—calyx obsolete, 3-sepalled: corol 0: stamens 3 together, on a chaffy or hairy receptacle, united below into one. Pistillate flowers—below the staminate: calyx 0: corol 0: seed 1, pedicelled: the pedicels surrounded at the base with long hairs resembling egret. (cat-tail or reed mace.) *S.*

Sparganium. Ament globose. Staminate flowers—calyx 3-sepalled: corol 0. Pistillate flowers—calyx 3-sepalled: corol 0: stigma 2-cleft: drupe juiceless, 1 or 2-seeded. (burr-reed.) *S.*

Carex. Aments imbricate, (usually in cylindric spikes.) Staminate flowers—glume single: corol 0. Pistillate flowers—glume single: corol inflated, monopetalous, 2-toothed at the apex: stigmas 2 or 3: nut 3-sided, enclosed in the inflated, permanent corol, which becomes an utriculus-like permanent aril. Sometimes diœcious. (sedge.) *S.*

Scleria. Staminate flowers—glume 2 or 6-valved, many-flowered: paleas awnless. Pistillate flowers—calyx 2 or 6-valved, 1-flowered, paleas none: stigmas 1 to 3: nut colored, sub-globose. (whip grass.) *S.*

Tripsacum. Staminate flowers—glume 2-flowered, outer one staminate, inner one neutral: paleas membranaceous. Pistillate flowers—glume 1 or 2-flowered, covered with a 1-leafed involucre perforated with hollows near the base: paleas with numerous thin membranaceous valves: styles 2: seed 1. (sesame-grass.) *S.*

Comptonia. Staminate flowers—ament cylindric, with calyx-scales 1-flowered: corol 2-petalled or none: filaments 2-forked. Pistillate flowers—spike or ament ovate: corol 6-petalled, (the corol may be called a calyx:) styles 2: nut oval, 1-celled. (sweet-fern.) *S.*

Exotic.

Coix. Staminate flowers—in remote spikes: glume 2-flowered, awnless: paleas awnless. Pistillate flowers—glume 2-flowered: paleas awnless: style 2-parted: seed covered with the bone-like calyx. (job's tear.)

Southern.

Zea. Staminate flowers—glume 2-flowered, awnless: paleas awnless. Pistillate flowers—glume 2-valved, (number of valves increased by cultivation:) style 1, very long, filiform, pendulous: seed solitary, immersed in an oblong receptacle. (indian corn.)

Tragia. Staminate flowers—calyx 3-parted: corol none. Pistillate flowers—calyx 5-parted: corol none: style 3-cleft: capsule tricoccus, 3-celled: seed solitary.

Manisuris. Somewhat polygamous. Staminate flowers—glumes 2, lanceolate, flexuous: corol a mere rudiment. Pistillate flowers—glume 2-valved, the outer one roundish, cartilaginous: corol 2-valved. In the perfect flowers there are 3 stamens, 2 styles, seed 1. In some the stamens, styles and nectaries are wanting.

*Momordica, Amaranthus, Melothria. Grasses of Class 3, Order 2, Sec. E., vary into this order.

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†See Note under the Species in this work, under word Euphorbia.

ORDER IV. TETRANDRIA.

Eriocaulon. Involucre many-leaved; florets many, in an imbricate head: partial perianth superior, 2 or 3-sepalled. Staminate flowers central, with monopetalous cleft corols. Pistillate flowers marginal, with 2-petalled corols: stigmas 2 or 3: capsule 2 or 3-celled, 2 or 3-lobed: pericarp 1-seeded, crowned with the corol. (pipewort.) *S.*

Alnus. Staminate flowers—ament composed of wedge-form, truncate, 3-flowered receptacles: calyx a scale, 3-lobed: corol 4-parted. Pistillate flowers—calyx 2-flowered scales, somewhat 3-cleft: corol 0: pericarp compressed, ovate, wingless. (alder.) *S.*

Bœhmeria. Staminate flowers—calyx 4-parted: corol 0: nectary 0. Pistillate flowers—calyx 0: corol 0: styles 2: pericarp 1-seeded, compressed. (Flowers in cylindric spikes.) (false nettle.) *S.*

Urtica. Staminate flowers—calyx 4-sepalled: corol 0: nectary central, cyathiform. Pistillate flowers—calyx 2-sepalled. (2-valved:) corol 0: seed 1, glossy. (nettle.) *S.*

Parietaria. Polygamous. Perfect flowers—calyx 4-cleft, inferior: corol 0: stamens elastic: style 1: seed 1. Pistillate flowers—calyx 2-sepalled: nut covered with the dry elongated calyx. (pellitory.) *S.*

Morus. Staminate flowers—calyx 4-parted: corol 0. Pistillate flowers—calyx 4-sepalled: corol 0: styles 2: calyx becoming berry-like: seed 1. (mulberry.) *S.*

Exotic.

Buxus. Staminate flowers—calyx 3-sepalled: petals 3, with the rudiment of a germ. Pistillate flowers—calyx 4-sepalled: petals 3: styles 3: capsule with 3 beaks and 3 cells: seeds 2. (box.)

Southern.

Pachysandra. Calyx about 4-sepalled: corol none: filaments sub-clavate: styles 3: capsules 3-horned, 3-celled; cells 2-seeded.

Diotis. Staminate flowers—calyx 4-sepalled: corol none. Pistillate flowers—calyx 1-sepalled, 2-horned: style 2-parted: nut 1, covered by the 2-horned calyx.

ORDER V. PENTANDRIA.

Crotonopsis. Staminate flowers—calyx 5-parted: corol 5-petalled. Pistillate flowers—calyx 5 parted: corol none: stigmas 3, twice 2-cleft: capsule 1-seeded. (false spurge.) *S.*

Amaranthus. Staminate flowers—calyx 3 or 5-sepalled, or deeply 3 or 5-parted: corol 0: stamens 3 or 5. Pistillate flowers—calyx and corol as the staminate: styles 2 or 3: capsule 1-celled, opening transversely: seed 1. (amaranth, red cockscomb.) *S.*

Xanthium. Staminate flowers—involucre imbricate: anthers in contact, but not united: corol 5-cleft, funnel-form: receptacle chaffy. Pistillate heads 2-flowered, invested by a spinose involucre; pericarps distinct, 1 in each cell of the bilocular and finally indurated, 2-bracted involucre: styles bifid, persistent, projecting through the bracts of the involucre. (sea-burdock.) *S.*

Ambrosia. Staminate flowers—in little heads of several florets, surrounded by a 1-leaved, lobed, or crenate involucre: calyx funnel-form, 5-lobed, hyaline: corol funnel-form, 5-lobed, hyaline. Pistillate flowers—single or glomerate in heads; 1 to 5-flowered, surrounded by several leafy bracts; florets each with a bract at the base: calyx entire or 5 to 10-toothed, persistent: corol closely contracted around the top of the ovary and lower part of the style, minutely 5-toothed, persistent: nut 1-seeded. (hog-weed.) *S.*

Southern.

Schizandra. Calyx 9-sepalled: sepals in three series: corol none: anthers sub-sessile, cohering at the tips: berries 1-seeded, inserted on an elongated, thread-form, receptacle.

ORDER VI. HEXANDRIA.

Zizania. Staminate and pistillate flowers in the same panicle; staminate spikelets 1-flowered; glumes none, or very minute rudiments: paleas 2, herbaceous, unequal, lance-oblong, awnless: pistillate spikelets 1 flowered, subulate: glumes none, or a minute, truncate, cup form rudiment: paleas 2, herbaceous, unequal, linear, nerved:

lower one longer, terminating in a straight awn: styles 2: seed enveloped in the plicate paleas. (water oats.) *S.*

HYDROCHLOA. Pistillate flowers—glumes none: paleas awnless. Staminate flowers—glumes none: paleas 2, awnless: stigmas 2, very long: seed 1, reniform.

*Celtis, Veratrum, Quercus, Betula.

ORDER XII. POLYANDRIA.

A. *Stems not woody.*

CERATOPHYLLUM. Staminate flowers—calyx many-parted: corol 0: stamens 16—20, short, with tricuspidate anthers. Pistillate flowers—calyx 6-sepalled or many-parted: imbricated: corol 0: pistil 1, with the stigma nearly sessile, oblique: nut 1-seeded. (horn wort.)

MYRIOPHYLLUM. Staminate flowers—calyx 4-cleft: petals 4, caducous: stamens 4, 6, or 8. Pistillate flowers—calyx and corol like the staminate, excepting that the calyx is often 4-sepalled: germs 4: style 0: stigmas 4, hairy: nuts 4, sub-globose, 1-seeded. (water milfoil.) *S.*

SAGITTARIA. Staminate flowers—calyx 3-sepalled: corol 3-petalled: filaments mostly 24. Pistillate flowers—calyx and corol as in the staminate: germs many: carpels aggregate, 1-seeded, not opening. (arrow-head.) *S.*

ARUM. Spathe cucullate, 1-leaved: spadix not entirely covered with the fructification: being more or less naked above, with pistillate flowers beneath, and staminate in the middle: (sometimes a few are staminate beneath:) berry mostly 1-seeded, generally cirrose-glandular beneath. (indian turnip, wake-robin.) *S.*

RENSSELAERIA.* Spathe convolute: spadix covered with flowers, fertile at the base, barren above: perianth none: berry 1-seeded. (spear arum.)

CALLA. Spathe ovate, becoming expanded: spadix covered with the fructification: stamens intermixed. Staminate flowers—calyx and corol 0: anthers sessile. Pistillate flowers—calyx and corol 0: berries 1-celled, many-seeded, crowned with the short style. (water arum.)

Exotic.

POTERIUM. Staminate flowers—calyx 4-sepalled: corol 4-parted: stamens 30 to 50. Pistillate flowers—calyx and corol like the staminate: pistils 2: berry from the indurated tube of the corol. (burnet.)

Southern.

CALADIUM. Anthers peltate, many-celled, collected into a spike at the summit of the spadix: style none: germs at the base of the spadix: stigma umbilicate: berry 1-celled, many-seeded.

PITAVIA. Flowers by abortion, diclinous: calyx 4-parted: petals 4, longer than the calyx. Staminate flowers—stamens 8, the 4 opposite petals shorter; abortive ovaries 3 or 4, distinct, with the styles cohering above. Pistillate flowers—ovaries 4: styles coalescing above: stigma 4-lobed: nuts 4, or by abortion fewer: 1-seeded.

B. *Stems woody.*

QUERCUS. Staminate flowers—ament loose: calyx sub-5-cleft: corol none: stamens 5 to 10. Pistillate flowers—involucre of numerous scales united into a cup: perianth single, closely investing the ovary, 6-toothed: ovary 3-celled, 2 of them abortive: style one, stigmas 2 to 5: nut or acorn 1-celled, 1-seeded, coriaceous, surrounded at the base by the permanent indurated involucre. (oak.) *S.*

CORYLUS. Staminate flowers—ament cylindrical, imbricate: calyx a 3-cleft scale; stamens about 8. Pistillate flowers—involucre 2-parted, lacerated: stigmas 2: nuts ovate, surrounded by and included in the permanent leaf-like involucre. (hazle-nut.) *S.*

FAGUS. Staminate flowers—ament roundish: calyx 5 or 6-cleft, bell-form: stamens 5 to 12. Pistillate flowers—2 in an ovate muricate involucre: perianth urceolate, with 4 or 5 minute segments: ovary incorporated with the perianth: stigmas 3: nuts usually 2, included in the enlarged, coriaceous, muricate 4-cleft involucre. (beech.) *S.*

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* This is the Arum virginicum of Linnaeus, from which Cooper constructed a genus Lecontia. As that name had been given to another plant, Prof. L. C. Beck gave it this name, as a small memento of the munificent patronage extended to the Natural Sciences by the Hon. Stephen Van Rensselaer.

Castanea. Polygamous. Staminate flowers—ament naked, linear: corol (or calyx) 1-leaved, 5 or 6-parted: stamens 10 to 20. Pistillate flowers—usually 3, within an ovate, squamose, or mucronate involucre: perianth urceolate, 5 or 6-cleft, having the rudiments of 10 or 12 abortive stamens: ovary incorporated with the perianth: stigma pencil-form, exserted, cartilaginous and rigid; nuts 1 to 3, included in the enlarged, echinate, 4-lobed involucre. (chesnut.) *S.*

Betula. Staminate flowers—aments long, cylindric: scales ternate, the middle one bearing the stamens. Pistillate flowers—aments ovate oblong: scales trifid, 3-flowered: styles 2: nuts compressed, with a membranaceous margin: 1-seeded. (birch.) *S.*

Carpinus. Staminate flowers—aments cylindric: scales ovate, acute, ciliate near the base: anthers slightly bearded at the summit. Pistillate flowers—aments oblong, loosely imbricated, bracteate, with the flowers in pairs: scales unequally 3-lobed, 1-flowered, persistent, enlarging and becoming foliaceous: perianth urceolate, 6-toothed, incorporated with the ovary: styles 2, united at the base: nut bony, ovate, acute, sub-compressed, ribbed. (hornbeam.) *S.*

Ostrya. Staminate flowers—aments cylindric: scales orbicular-ovate, acuminate, ciliate: anthers conspicuously bearded at the summit. Pistillate flowers—aments linear, loosely imbricated, bracteate, with the flowers in pairs: scales none, but a membranous stipe or involucre enclosing each flower: perianth slightly urceolate, sub-dentate, incorporated with the ovary: styles 2, united at the base: nut lance-oblong, somewhat compressed, included in the enlarged imbricated bladder-like sac. (hop hornbeam.) *S.*

Platanus. Staminate flowers—minute, in globose pedunculate heads: stamens intermixed with linear scales, anthers adnate to the filaments. Pistillate flowers—minute, in dense, globose pedunculate heads: scales spatulate: ovary filiform, clavate: style with the stigma recurved: nuts numerous, terete, clavate, mucronate with the persistent style, invested with pappus-like hairs at the base. (button-wood, false sycamore.) *S.*

Liquidambar. Staminate flowers—ament conic surrounded with a 4-leaved involucre: corol 0: filaments numerous. Pistillate flowers—ament globose, surrounded with a 4-leaved involucre: scales 1-leaved, pitcher-form, 2-flowered: styles 2: carpels 2, surrounded at the base by the scales, 1-celled, many-seeded. (sweet gum.) *S.*

Juglans. Staminate flowers—ament imbricate: scales generally 5-parted: stamens 18 to 36. Pistillate flowers—calyx 4-cleft, superior: corol 4-cleft or 4-parted: styles 1 or 2: drupe partly spongy: nut rugose and irregularly furrowed. (butter-nut, black walnut.) *S.*

Carya. Staminate flowers—ament imbricate: scales 3-parted: stamens 3 to 8. Pistillate flowers—calyx 4-cleft, superior: corol 0: styles 0; stigma disk-like, 4-lobed: pericarp 4-valved; nut sub-quadrangular, even. (hickory, walnut. *S.*)

Order XV. Monadelphia.

A. *Stems not woody.*

Acalypha. Staminate flowers—calyx 3 or 4 sepalled, or 3 or 4-parted: corol none: stamens 8 to 16. Pistillate flowers—calyx and corol like the staminate: styles 3, 2-cleft: capsule tricoccous, 3-celled. (Having large bracts.) (three-seed mercury.) *S.*

Phyllanthus. Staminate flowers—calyx 5 or 6-parted: filaments united in a column; anthers 3, and generally several barren filaments. Pistillate flowers—calyx and corol like the staminate: nectary with a 12-angled margin: styles 3: capsule tricoccous. (leaf-flower.) *S.*

Melothria. Staminate flowers—calyx 1-sepalled, 3 to 5-toothed: corol bell-form: filaments 3. Pistillate flowers—calyx and corol as in the staminate, superior: style 1; stigmas 3: berry 3-celled, many-seeded. (creeping cucumber.) *S.*

Momordica. Staminate flowers—calyx 5 or 6-cleft: corol 5 or 6-parted: filaments 3. Pistillate flowers—style 3-cleft: berry gourd-like, and bursting elastically; seeds compressed. (balsam apple, wild cucumber.)

Sicyos. Staminate flowers—calyx 5-toothed: corol 5-parted: filaments 3. Pistillate flowers—styles 3-cleft: berry gourd-like, 1-seeded. (single-seed cucumber.) *S.*

Exotic.

Cucumis. Staminate flowers—calyx 5-toothed: corol 5-parted: filaments 3. Pistillate flowers—calyx and corol like the staminate: stigmas 3, thick, 2-parted: fruit a fleshy 3 to 6-celled pepo; seeds obovate, oblong, compressed, acute at the base, not margined. (cucumber, musk-melon.)

Cucurbita. Staminate flowers—calyx 5-toothed: corol 5-cleft: filaments 3. Pistillate flowers—calyx and corol like the staminate: pistil 3-cleft: fruit a fleshy, or sub-ligneous pepo, 3 to 5-celled: seeds thickened at the margin, obovate, compressed, smooth. (gourd, squash, pumpkin, water-melon.)

Ricinus. Staminate flowers—calyx 5-parted: stamens numerous. Pistillate flowers—calyx 3-parted: styles 3, 2-cleft: capsules echinate, 3-celled, 3-seeded. (palma christi, or castor oil plant.)

Southern.

Jatropha. Staminate flowers—calyx 5-sepalled, or wanting: corol funnel-form: stamens 10, with every other one shorter. Pistillate flowers—calyx none: corol 5-petalled, spreading: styles 3, 2-cleft: capsule 3-celled, 1-seeded. (physic nut.)

Stillingia. Staminate flowers—involucre hemispherical, many-flowered, or wanting: perianth tubular, erose: stamens 2 or 3, exsert. Pistillate flowers—calyx 1-flowered, inferior: style 3-cleft: capsule 3-grained. (tallow tree.)

Croton. Staminate flowers—calyx cylindrical, 5-toothed: petals 5, or none: stamens 10 to 15. Pistillate flowers—calyx 5-sepalled, or none: corol none: styles 3 or 6, 2-cleft: capsule 3-grained, 3-celled, 3-seeded.

B. *Stems woody.*

Pinus. Staminate flowers—scales peltate: corol 0, each bearing 2 sessile 1-celled anthers. Pistillate flowers—in strobiles or cones, scales closely imbricate, 2-flowered: pistil 1: nut with a membranaceous wing, (perhaps more properly a samara,) covered by the oblong, imbricated, woody scales of the cone. (pine.) *S.*

Thuja. Staminate flowers—scales of the ament imbricate: anthers 4, sessile. Pistillate flowers—ament a strobile: scales 2-flowered: nut 1, surrounded with a marginal wing. (arbor vitae.) *S.*

Cupressus. Staminate flowers—ament ovate, imbricate: scales peltate: anthers 4, sessile. Pistillate flowers—ament strobilaceous; scales peltate: 1-flowered: germs 4 to 8, under each scale: nuts angular, compressed. (white cedar.) *S.*

CLASS XX. DIOECIA.

Order II. Diandria.

Vallisneria. Staminate flowers—spathe ovate, 2-parted: spadix covered with minute florets: perianth 3-parted. Pistillate flowers—spathe 2-cleft, 1-flowered: perianth 3-parted, superior: corol 3-petalled: stigmas strap-like, 2-cleft: capsule valveless, 1-celled: seeds numerous, attached to the sides. (tape-grass.)

Salix. Staminate flowers—ament cylindric: scales 1-flowered, with a nectariferous gland at the base: stamens 1 to 6. Pistillate flowers—ament and scales like the staminate: stigmas 2: generally 2-cleft: capsule 1-celled, 2-valved: seeds many, with egret-like down. (willow.) *S.*

Fraxinus. Polygamous. Perfect flowers—calyx 0, or 3 or 4-parted: corol 0, or 4-petalled: pistil 1: samara 1-seeded, with a lanceolate wing. Pistillate flowers—calyx, corol and pistils, same as perfect. (ash.) *S.*

Southern.

Borya. Staminate flowers—calyx 4-sepalled: corol none: stamens 2 or 3. Pistillate flowers—stigma capitate: berry 1-seeded.

Ceratiola. Calyx bud-like, imbricated with 6 to 8 scales: corol none: stamens 2, exsert: stigmas unequal, (4 to 6) 2 of them larger: berry with 2 bony seeds. (hornbush.)

Order III. Triandria.

Empetrum. Staminate flowers—calyx bud-like, imbricated with about 9 scales; the 3 innermost are petal-like: stamens long. Pistillate flowers—calyx and corol as in the staminate: stigmas 9: berry 9-seeded; seeds bony. (crow-berry.)

Exotic.

Ficus. Common receptacle fleshy, (becoming the fruit), enclosing the apetalous florets; both staminate and pistillate, either in the same, or in distinct individuals.

Staminate flowers—calyx 3-parted. Pistillate flowers—calyx 5-parted: pistil 1, lateral; carpels covered with the closed, permanent, somewhat fleshy calyx. (fig-tree.)

Order IV. Tetrandria.

Myrica. Staminate flowers—ament oblong: scales lunulate: stamens 4 to 6: anthers 4-valved. Pistillate flowers—scaly like the staminate: stigmas 2: drupe or berry 1-seeded. (bay-berry, sweet gale.) *S.*

Viscum. Staminate flowers—calyx 4-parted: corol 0: anthers sessile, adhering to the calyx. Pistillate flowers—calyx adnate to the ovary, with the limb entire or obsolete: petals 4 minute, superior: style 0: berry 1-seeded, globose: seed cordate: (parasitic, adhering to the trees.) (mistletoe.) *S.*

Arcenthobium. Staminate flowers sessile: calyx 0: corol monopetalous, 2-3,- rarely 4-parted, horn-fleshy; divisions ovate, concave, spreading: stamens 2, 3, 4; anthers sessile: germ 0; but in its place is a small gland, 2, 3, or 4-lobed. Pistillate flowers—short-pedicelled: stigma sessile, small, obscurely lobed: berry terete, 1-seeded. Plant leafless, parasitic, jointed.

Southern.

Maclura. Staminate flowers—[not examined.] Pistillate flowers—calyx none: corol none: style 1, filiform, villous: germs numerous, becoming berry-like aggregate, many-celled, 1-seeded; seed obovate, compressed.

Broussonetia. Staminate flowers—ament cylindrical: calyx 4-parted. Pistillate flowers—ament globose: calyx tubular, 3 or 4-toothed: germ becoming fleshy, clavate, prominent: style lateral: nut 1, covered with the calyx. (paper mulberry.)

Order V. Pentandria.

Nyssa. Perfect flower--calyx superior, 5-parted: corol 0: pistil 1: fruit a drupe, nut 1-seeded. Staminate flowers—stamens 5 to 12, standing around a peltate gland. (tupelo tree, pepperidge.) *S.*

Hamiltonia. Perfect flowers—calyx sub-campanulate, superior, 5-cleft: corol 0: nectary with a 5-toothed disk: stamens 5: pistil 1: fruit a drupe. Staminate flowers like the perfect, except in wanting the pistil. (american oil-nut.) *S.*

Xanthoxylum. Staminate flowers—calyx 5-parted: corol 0: stamens 3 to 6. Pistillate flowers—pistils 3 to 5: carpels equal to the number of pistils, 1-seeded. (prickly ash, or tooth-ache tree.) *S.*

Acnida. Staminate flowers—calyx 5-parted: corol 0. Pistillate flowers—calyx 3-parted: style 0: stigmas 3, sessile: capsule 1-seeded. (water hemp.) *S.*

Humulus. Staminate flowers--calyx 5-sepalled: corol 0: anthers with 2 pores at the extremity. Pistillate flowers—scales entire, oblique, spreading: styles 2: nut 1, within the leaf-like scale: infloresence strobile-form. (hop.) *S.*

Exotic.

Cannabis. Staminate flowers—calyx 5-parted. Pistillate flowers—calyx 5-sepalled, entire, gaping laterally: styles 2: nut 2-valved, within the closed calyx. (hemp.)

Spinacia. Staminate flowers—calyx 5-parted: corol 0. Pistillate flowers—styles 4: nut 1, within the indurated calyx. (spinach.)

Southern.

Iresine. Staminate flowers—calyx 2-sepalled: petals 5: nectaries 5 or 7. Pistillate flowers—stigmas 2, sessile: capsule many-seeded, becoming downy.

*Vitis.

Order VI. Hexandria.

Smilax. Staminate flowers—calyx 5 or 6-sepalled, inferior: corol 0: anthers adhering to the filaments. Pistillate flowers—calyx and corol like the staminate: styles minute; stigmas 3: berry 3-celled, 1 to 3-seeded. (green briar, jacob's ladder.) *S.*

Dioscorea. Staminate flowers—calyx 6-parted: corol none. Pistillate flowers—styles 3: capsule 3-celled, 3-winged, compressed: seeds 2, membranaceous. (Leaves generally alternate.) (yamroot.) *S.*

Gleditschia. Perfect flowers—calyx 6 to 8-parted, caducous, 3 or 4 of the outer segments smaller: corol none: stamens 5 or 6 (rarely 8:) legume long, flat, compressed, 1 or many-seeded. Staminate flowers—calyx sub-turbinate, 5 to 8-parted, with 3 to 5 of the segments interior: stamens 6 to 8. (honey locust.) *S.*

*Helonias.

ORDER VIII. OCTANDRIA.

Populus. Staminate flowers—ament cylindric, scales torn: perianth turbinate, oblique, entire, supporting 8 to 30 stamens. Pistillate flowers—ament and perianth like the staminate: stigma 4 to 6-lobed: capsule 2-celled, 2-valved, many-seeded: seed with egret-like hairs. (Leaves having a tremulous motion.) (poplar, balm of gilead.) *S.*

Diospyros. Staminate flowers—calyx 4 to 6-cleft, dilated: corol pitcher-form, 4 to 6-cleft: stamens 8, 16 or 24; often 2 anthers to a filament. Pistillate flowers—calyx and corol like the staminate: stigmas 4 or 5: berry 8 to 12-seeded. (date plum.) *S.*

Hippophae. Shepherdia. Staminate flowers—calyx 4-parted, caducous, tubular: corol 0: stamens 8, enclosed, alternating with 8 glands. Pistillate flowers—calyx 4-cleft, bell-form, superior: style 1: stigma oblique: berry 1-seeded. (sea-buckthorn.)

ORDER IX. ENNEANDRIA.

Serpicula. Udora. Elodea. The perfect flowers have 3 stamens only. Staminate flowers—calyx 3 parted: corol 3-petalled: stamens 9, 3 of them within. Pistillate flowers—calyx 3-parted: tube very long: petals 3: barren filaments 3: capsule bladder-like, 3 seeded; seeds cylindrical. (ditch-moss.) *S.*

Southern.

Hydrocharis. Staminate flowers—spathe 2-leaved: perianth 3-parted: corol 3-petalled: styles 3, all abortive. Pistillate flowers—spathe, perianth and petals, like the staminate, and superior: stigmas 6, 2-cleft: stamens 3, barren; 3 nectariferous glands: capsule 6-celled, many-seeded. (frog-bit.)

ORDER X. DECANDRIA.

Gymnocladus. Staminate flowers—calyx tubular, 5-cleft: corol 5-petalled. Pistillate flowers—same as the staminate: style 1: legume 1-celled, pulpy within: seed roundish, large and hard. (coffee-bean.)

Southern.

Carica. Staminate flowers—calyx minute or obsolete: corol 5-cleft, funnel-form: filaments alternately shorter, enclosed in the tube of the corol. Pistillate flowers—calyx 5-toothed: corol 5-petalled: stigmas 5: berry (cucumber-form) grooved, 1-celled, many-seeded. (false papaw tree.)

ORDER XII. POLYANDRIA.

Menispermum. Staminate flowers—calyx 6-sepalled, somewhat 2-bracted caducous: petals 6 to 9, glandular, minute, retuse: stamens 16, 20 or 24: anthers 4-lobed, 2-celled, adnate to the filaments. Pistillate flowers—calyx and corol like the staminate: germs and styles 3 to 6: drupes or berries mostly solitary, 1-seeded: nut wooly, lunulate, compressed. (moon-seed.) *S.*

Datisca. Staminate flowers—calyx 5-sepalled: corol 0: anthers sessile, about 15. Pistillate flowers—calyx superior, 2-toothed: styles 3: capsules 3-angled, 3-horned, 1-celled, many-seeded, pervious. (false hemp.)

Cycas. Staminate flowers—ament imbricated: scales spatulate, single: anthers globose, sessile, on a scale. Pistillate flowers—spadix compressed, 2-sided: perianth a scale.

Southern.

Zamia. Ament a strobile. Staminate flowers—scales obovate: anthers globose, sessile upon scales, opening by a fissure. Pistillate flowers—scales peltate: corol none: germs 2: styles none: berries 2, 1-seeded.

*Thalictrum.

ORDER XV. MONADELPHIA.

Juniperus. Staminate flowers—ament ovate, whorled: scales peltate: anthers 4 to 8. Pistillate flowers—calyx 3-parted: petals 3: styles 3: berry 1 or 2-seeded, consisting of the unequal tubercles of the calyx. (Nut bony, 1-celled, with balsamy glands at the base.) (red cedar, savin.) *S.*

Taxus. Staminate flowers—scales 4 to 6, imbricated: stamens many, 8 to 10; anthers peltate, 6 to 8-cleft. Pistillate flowers—style 0: receptacle cup-form, succulent; fruit fleshy, open at the extremity, nut 1-seeded. (yew.)

Cissampelos. Staminate calyx 4-sepalled: corol 0: nectary wheel-form: stamens 5, with connate filaments. Pistillate calyx 1-sepalled, round-ligulate: styles 3: berry 1-seeded.

Southern.

Torreya. Staminate flowers—ament, sub-globose at first, at length elongated: rachis naked, but when it becomes elongated, it is bracted at the base with dry scales, imbricated 4 ways and many-flowered: scales bearing the stamens are pedicelled, sub-peltate, halved, from hence bearing the 4-celled pendulous anthers. Pistillate flowers—ament ovate, bracted at the base as in the staminate, but is one-flowered: ovulum erect: seeds ovate, at the base bracted with dry scales not large: the rest naked: testa thick, outside fleshy and leathery, within fibrous: tegmen crustaceous, hard: albumen ruminated: embryo sub-cylindrical, short: cotyledons connate. (florida yew-tree.)

CLASS XXI. CRYPTOGAMIA.

Order I. Filices.

A. *Capsule having an elastic ring at right angles with its opening.*

Polypodium. Sori (or clusters of capsules,) round, scattered on various parts of the lower surface of the frond: involucre none. (polypod.) *S.*

Acrostichum. Capsules numerous, covering the whole lower surface of the frond: involucre none. (The fertile leaves differ in shape from the barren. This genus should be examined in the young state: for the scattered fruit of their genera, by becoming confluent when old, often cover the frond.) (fork-fern.) *S.*

Hypopeltis. Fruit dots roundish, having a cup-form involucre beneath, divided into 5 or 6 irregular segments: capsules all sessile.

Woodsia. Involucre beneath, perianth-form, with a hair-like margin: capsules pedicelled, included within the involucre: fruit-dots roundish, scattered. (flower-cup fern.) *S.*

Aspidium.* Sori scattered, roundish, on various parts of the whole lower surface of the frond: involucre a kidney-form or round membrane, fastened to the frond in or near the centre of the fruit-dot, and opening on all sides, or to one side of the fruit-dot, and opening on the other. (shield-fern.) *S.* (The involucre, when a little opened, is often peltate.)

Asplenium. Sori in lines parallel to each other, situated exactly *upon* the secondary veins of the frond: involucres opening inwards. (By the secondary veins is meant those of the middle part of the disk, not the larger ones at the margin or midrib. The parallel lines of sori may stand obliquely with respect to the midrib, but their direction must be parallel to each other.) (spleen-wort, walking-leaf.) *S.*

Scolopendrium. Sori in strait or zigzag parallel lines *between* the secondary veins (or ribs) of the frond: involucre double, opening on the top of the lines of sori, and folding down towards each side. (In the genus *asplenium*, the lines of sori lie across the veins of the frond; but in this they are in line with the veins, and attached along their sides or between them.) (caterpillar fern.)

Blechnum. Sori in uninterrupted lines running parallel to the midrib of the frond on both sides: involucre opens inwards. (The fruit of this genus, when ripe, often covers the whole lower surface of the frond, like the *acrostichum;* it must therefore be examined in the young state.) (roman fern.) *S.*

Woodwardia. Sori oblong or oval, arranged in regular rows on both sides of, and parallel with, the ribs: involucre vaulted, and opening inwards. (When the leaves have large segments, the sori are arranged along the midribs of the segments. (kidney-fruit fern.) *S.*

Pteris. Sori arranged in a continued line along the very margin of the frond: involucres opening inwards, being formed of the inflexed margins of the fronds. (When the leaves are extremely small, the rows of capsules on opposite sides meet, and cover the lower surface. (brake.) *S.*

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*The genus Athyrium is re-united to the Aspidium, in accordance with Dr. Torry's views. The mere fastening of the involucre on one side of the fruit-dot, and opening on the other, not being sufficient for dividing a natural genus.

Adiantum. Sori oblong, arranged along the margin of the frond: involucre is formed by turning back the margin of the frond over the sori, and it opens inwards. (The lines of oblong spots are generally along that margin, which may be considered the end of the leaf, or of the segments of the leaf.) (maiden-hair.) *S.*

Dicksonia. Sori small, round, scattered at the margin of the frond: involucre double; one part is formed of the thin margin of the frond, turned over upon the fruit-dots, the other is from the frond on the inward side of the fruit-dots; each part opening opposite to where it is fastened to the frond. (mountain fern.) *S.*

Cheilanthes. Fruit-dots roundish, punctate, distinct, situated at the margin of the frond: involucre a roundish membrane, formed by turning over the margin of the frond upon the fruit-dots, and opening inwards. (The margin is always crenate, and each fruit-dot has its own involucre perfectly separate from the others.) (lip-fern.) *S.*

Hymenophyllum. Fruit-dots marginal: the capsule sessile, inserted on a common cylindrical receptacle, within a 2-valved involucre of the same texture as the frond· valves have; exterior free. *S.*

Onoclea. Fruit-dots indeterminate, presenting a berry-like appearance; capsules covering the whole lower surface of the frond: involucre formed by turning in or rolling back the margin of the leaf, which opens inwards, in maturity, towards the midrib, or remains closed. (The fertile leaves are contracted, and narrower than the barren ones.) (sensitive polypod.) *S.*

Struthiopteris. Capsules covering the back of the frond very densely: involucre scale-like, marginal, opening inwards.

Southern.

Vittaria. Fruit-dots linear continued longitudinally along the disk or towards the margin of the frond: involucre double, uninterrupted; one opening outwards, the other inwards.

B. *Capsule without a ring—being cellular-reticulate, pellucid, sub-striate, radiate at the tip.*

Osmunda. Capsules globose, pedicelled, radiate-striate or wrinkled, having a hinge at the joining of the two valves, which resembles part of the jointed ring of annulated ferns: the capsules either occupy the whole frond, to a limited extent, or a panicled raceme. (The parts of the frond occupied by the fruit are always more contracted than the barren parts.) (flowering fern.) *S.*

Schizæa. Capsules top-form, partly opening by an oblong lateral pore; striate longitudinally and radiately, situated upon the back part of a narrow spike-form appendage of the frond, surrounded with or interspersed among, bundles of hairs. (The appendages, bearing the capsules, are generally digitate, and occupy the summit of the frond.) (one-sided fern.)

Lygodium. Capsules covered with a scale-like veil, in two series, radiate-striated or wrinkled, opening on the inner side from the base to the summit; they are situated upon spikelets which proceed from the margin of the frond, each capsule being hid under a scale which falls off frequently in ripening; spikelets mostly unilateral. (fringed fern, climbing fern.) *S.*

C. *Capsule without a ring—being adnate at the base, sub-globose, coriaceous, not cellular, somewhat 2-valved.*

Ophioglossum. Capsules round, 1-celled, opening transversely; they are placed on a somewhat jointed spike in two close rows. (adder tongue fern.) *S.*

Botrychium. Capsules coriaceous, globose, 1-celled, smooth, adnate to each rachis of a compound raceme, (panicle,) separate, valves 2, connected behind, opening transversely. (grape fern.) *S.*

Southern.

Psilotum. Bernhardia. Capsules 3-grained, 3-celled; cells opening above: half 2-valved: fruit in spikes. *S.*

D. *Sub-order,* Apteres—*without pinnate, pinnatifid, or other winged, leaves.*

Lycopodium. Capsules mostly kidney-form or roundish, 2 or 4-valved, opening elastically; they are placed under separate scales in a spike, or sometimes in the axils of leaves. (Very leafy, their stems being generally covered with 2, 3, or 4 rows of narrow, simple, entire leaves. (ground-pine.) *S.*

EQUISETUM. Fruit placed under peltate polygons, being pileus-like bodies, which are arranged in whirls, forming a spike-form raceme; 4 to 7 spiral filaments surround the seed (probably,) which resemble green globules. (Fertile plants mostly leafless; the stems of all are jointed with toothed sheaths at every joint, and usually longitudinally striated and hollow.) (scouring rush, horsetail.) *S.*

ISOETES. Capsules membranaceous, 1-celled, not dehiscent: fruit-dots heart-ovate, immersed in a swelling, or tuberosity, at the base of the linear, sub-articulate, grass-like frond: seed angular, attached to numerous cross-bars within the capsule. (quill wort.)

AZOLLA. Monoecious. Staminate? appendages by pairs, contiguous: involucre sub-globose, resembling a 1-celled capsule: seeds numerous, naked. *S.*

SALVINIA. Involucre imbricate, 4 to 9, connate, resembling a 1-celled capsule: seeds inserted on a central receptacle.

LOWER CRYPTOGAMIA.

Plants of the five lower orders of CRYPTOGAMIA, are not commonly made the subject of analysis in schools. I have, therefore, removed the Genera, as well as the Species, to the ends of their respective series. As they are quite as interesting and instructive in a physiological view, I shall give a full account of each order, where I treat of the Natural Method.

When the preceding paragraph was written for the 7th Edition, the author anticipated such progress in this department, as to enable him to give, in this edition, numerous localities and popular remarks for the relief of students. But he is compelled to confess his disappointment. As this is the only general system in English, hitherto attempted, on the five lower orders of American Cryptogamia, it must serve for the present.

ORDER II. MUSCI;

ARRANGED ACCORDING TO BRIDEL.*

First Division. Capsules without peristomes.

SPHAGNUM. Base of the calyptre remains attached to the capsule, after the upper part has fallen off.

PHASCUM. Capsules terminal, without an opening. Calyptre bell-form, halved, subulate, minute.

GYMNOSTOMUM. Capsules terminal. Calyptre cowled or halved, subulate, caducous.

SCHISTIDIUM. Capsules terminal. Calyptre mitre-form, or bell-conic, split at the base into many subequal divisions.

ANOECTANGIUM. Capsule lateral. Calyptre halved, subulate.

Second Division. Capsules with peristomes.

A. *Mouth surrounded by a single peristome: fruit terminal.*

1. *Teeth solitary, free* (disconnected) *at the base, entire.*

TETRAPHIS. Teeth of the peristome 4, pyramidal: calyptre mitre-form, split into many divisions at the base.

GRIMMIA. Teeth of the peristome 16, pyramidal, easily reflexed: calyptre mitre-form.

WEISISA. Teeth of the peristome 16, erectish, narrow, imperforate: calyptre halved, subulate.

TREMATODON. Teeth of the peristome 16, lance-linear, perforate: germ nodding, with a long horn-like epophysis at the base: calyptre cowled.

2. *Teeth solitary, free at the base, split from the apex towards the base.*

DICRANUM. Teeth of the peristome 16, inflexed, 2-cleft, the divisions equal: calyptre hood-form.

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*Arranged, with few exceptions, according to the Methodus Muscorum A. Sam. Eb. a Bridel.

Mosses may be gathered whenever the capsules have arrived to their usual size. But they must be put in a closet, until the lids of the capsules become reddish-brown, before they are examined. Then the lids may be removed, and the teeth examined.

Campylopus. Teeth of the peristome 16, 2-cleft, sub-perforate: calyptre mitre-form, torn-fringed at the base.

Trichostomum. Teeth of the peristome 16, split even to the base into 2, 3, or 4 parts, divisions filiform: calyptre halved, hood-form.

Calymperes. Teeth of the peristome 16, short, split: mouth closed by a spongy membrane: calyptre large, mitre-form, involving the capsule: at length laterally split.

3. *Teeth solitary, twisted together like a rope at the top.*

Barbula. Teeth of the peristome 16 or 32, capillary, somewhat connected at the base, and spirally twisted at the top; calyptre hood-form.

Syntrichia. Teeth of the peristome 16 or 32, twisted spirally in the form of a spike, and arising from a broad reticulate membrane: calyptre hood-form.

4. *Teeth approach each other, or unite, in pairs.*

Didymodon. Teeth of the peristome 32, they approach each other in pairs, but remain distinct: calyptre hood-form.

Splachnum. Teeth of the peristome 16, attached to each other in pairs so that they can hardly be separated without lacerating their cuticles, reflexed, and at length close pressed to the back of the capsule; the capsule has an apophysis: calyptre bell-form, with a sub-lacerated base.

B. *Mouth surrounded by a double peristome* (except 2 species of Orthotrichum;) *fruit terminal.*

Orthotrichum. Peristome single or double. *When single*, the teeth are 16, arranged in pairs; after the falling of the lid they are reflexed. *When double*, the outer teeth are as when single, and the inner teeth are 8 or 16, linear, distant: calyptre conic or bell-form, keeled, pilose upwards; rarely glabrous.

Ulota. Teeth of the outer peristome 16, arranged in pairs, after the falling of the lid they are easily reflexed; teeth of the inner peristome are 8, linear, distant: calyptre conic, smoothish, hairy above, often split into a fringe at the base.

Bartramia. Teeth of the outer peristome 16, wedge-form; the inner peristome consists of a membrane folded into 16 carinate plaits or folds; the divisions are bifid, receiving the inflexed apexes of the teeth; calyptre hooded.

Bryum. Teeth of the outer peristome 16, broadish, acute: the inner peristome consists of a membrane, divided or folded by keel-like furrows, and extended into 16 broadish processes, with ciliate hairs interposed: calyptre hood-form: capsule equal.

Arrhenopterum. Teeth of the outer peristone 16, broadish, acute: the inner peristome consists of a keel-furrowed membrane, split into broad processes, with ciliate hairs interposed: calyptre oblong, laterally sessile: capsule unequal, arcuate, nodding.

Mnium. Teeth of the outer peristome 16, broadish, ascending or erect, with very long apexes arching outwards; the inner peristome consists of a membrane extended into 16 perforated or forked divisions, ciliate hairs interposed? calyptre acutely conic: capsule unequal, nodding.

Timmia. Teeth of the outer peristome 16, broadish, acuminate: the inner peristome consists of a membrane torn into 16 divisions, opposite to the teeth, irregularly perforated and anastomosing, rarely the divisions are alternately free; calyptre laterally fissile.

Diplocomium. Teeth of the outer peristome 16, obtuse, short: the inner peristome consists of 16 ciliate hairs approaching each other in pairs, not connected by any membrane.

Meesia. Teeth of the outer peristom 16, short; the inner peristome consists of ciliate hairs connected wholly by net work.

Diphyscium. The outer peristome seems as if almost obliterated, it consists of 16 very minute scales surrounding the mouth of the germ; the inner peristome consists of a conic truncate membrane, in 16 plicate folds, which alternate with the scales.

Buxbaumia. Peristome three. Teeth of the outer peristome 16, truncate, very short, unequal, fugaceous: the two inner peristomes consist of sub-conical membranaceous cylinders, constructed of filaments laterally adhering together, and torn at the top: the innermost is the longest, folded in 16 plaits and dehiscent at the apex.

Funaria. Teeth of the outer peristome 16, cohering together at the apex and twisted obliquely; the inner peristome consists of 16 membranaceous ciliae opposite to the teeth, lying flatly.

C. *Mouth surrounded by a single peristome: fruit lateral.*

1. *Teeth entire.*

Pterigynandrum. Teeth of the peristome 16, equally distant, acute, erectish: calyptre hood-form, glabrous.

Lasia. Teeth of the peristome 16, equally distant, acute, erect: calyptre hood-form, pilose above.

2. *Teeth split.*

Leucodon. Peristome a membrane divided into teeth, each of which is split almost to its base: calyptre hood-form.

D. *Mouth surrounded by a double peristome; fruit lateral.*

1. *Teeth of the inner peristome free at the base.*

Neckera. Teeth of the outer peristome 16, erect, free; cilia of the inner peristome alternate with the teeth (rarely opposite;) calyptre hood-form, glabrous.

Cryphaea. Teeth of the outer peristome 16, erect, free; cilia of the inner peristome alternate with the teeth: calyptre mitre-form, or conic, glabrous.

Pilotrichum. Teeth of the outer peristome 16, erect, free; cilia of the inner peristome alternate with the teeth: calyptre mitre-form, or conic, hirsute.

2. *Teeth of the inner peristome connected by a membrane at the base.*

Climacium. Teeth of the outer peristome 16, acute; inner peristome consists of cilia, arising from a very short membrane, which are united at the apex in pairs by transverse bars.

Leskia. Teeth of the outer peristome 16, subulate, inflexible; inner peristome consists of a membrane extended into 16 linear uniform processes: calyptre hood-form.

Pterigophyllum. Teeth of the outer peristome 16, lance-linear; inner peristome consists of a membrane split into 16 linear uniform (rarely deformed) processes: calyptre mitre-form, entire, glabrous.

Hypnum. Teeth of the outer peristome 16, acute, reflexile; inner peristome consists of a membrane extended into 16 processes, with smaller capillary ones interposed: calyptre hood-form, glabrous.

3. *Inner peristome without teeth or cilia.*

Fontinalis. Teeth of the peristome 16, broadish, acute, erect; inner peristome a reticulate conic membrane.

E. *Mouth surrounded by a single peristome; fruit arises from the duplicature of a leaf.*

Fissidens. Peristome simple: teeth 16, 2-cleft, broadish, inflexed: the divisions somewhat unequal diverging.

F. *Mouth closed by a horizontal membrane.*

Polytrichum. Peristome very short; teeth 16, 32, or 64: mouth of the germ covered by a dry membrane, which is connected to it by the teeth of the peristome: calyptre very small with a large villose or hairy covering.

Catharinaea. Peristome very short: teeth 32 or 64; mouth of the capsule covered by a dry membrane: calyptre glabrous or hirsute, with scattering hairs.

ORDER III. HEPATICAE.

Blazia. Capsule 1-valved with no elevations of the seeds upon the columella (as in Anthoceros) crowned with a tube opening outwardly at the apex.

Targionia. Perianth-like organ globose, arising from the under side of the extremity of the frond: at length opening vertically into two valves: capsule globose, sub-sessile, included in the perianth, opening irregularly at the extremity and filled with spiral filaments.

Sphaerocarpus. Calyxes numerous, large, fascicled, in a minute frond, globe-turbinate, reticulate, sub-diaphanous, perforated at the apex including the capsule, which is sessile at the bottom of the calyx, and spherical: seeds numerous, sub-globose, sharp-muricate: frond reticulate, sub-diaphanous, of the substance of the calyx and very green.

Carpobolus. Capsules round-oblong, compressed, tapering, cleft or dehiscent at the apex: seeds minute, globose, free among each other: calyx largish, 2-cleft: frond round-oblong, with folds converging towards a centre; margins elevated, crenate.

Riccia. Capsules sub-globose, imbedded in the frond, not dehiscent; furnished with a short tube, scarcely prominent, becoming brownish and perforated at the apex. This aquatic genus has the habit of the most succulent and tender lichens.

Anthoceros. Capsules long, horn-form, subulate, longitudinally dehiscent into 2 valves when mature; imbedded and nourished in a linear fleshy receptacle: after the opening of the capsule seeds appear attached to a columella. Around the fleshy receptacle (or perhaps calyx) within the substance of the frond, appear heaps of reddish bodies resembling anthers. The substance of the frond is made up of hexahedral cells. In habit this genus resembles mosses.

Marchantia. Receptacles pedicelled, radiate-lobed, disk-like or bell-form, with the inside downwards, to which the globose 4-valved capsules are attached, with their apexes downward. The umbrella-like receptacle is elevated one or two inches by a stipe attached to the centre of its lower side, among the capsules and many pilose appendages. The frond is leafy, reticulate, furnished with a midrib, and beset with villose roots on the under side which attach themselves to stones in brooks, to damp earth, &c.

Jungermannia. Capsules 4-valved, globose, elevated by peduncles or stipes from within a bell-form calyx. The fronds are made up of finer leaves than those of the Marchantia, and are often mistaken for mosses among which they generally grow.

ORDER IV. ALGAE.

ARRANGED ACCORDING TO AGARDH.

Tribe I. Diatomeae.

Bodies of various forms, flat and crystalline, and separating into fragments.

Diatoma. Filaments jointed, hyaline, rigid, simple, united in pairs longitudinally, at length separating into articulations cohering by their alternate angles.

Tribe II. Nostochinae.

Individuals numerous, globular or filiform, suspended in a gelatine of a definite form.

Palmella. Minute or small, somewhat diaphanous gelatinous plants: filled with solitary granules unmixed with filaments.

Alcyonidium. A spongy, fleshy, lobed frond, filled with granules. Marine.

Nostoc. Plants roundish or shapeless, gelatinous. Substance composed of curved, moniliform, simple filaments, lying irregularly in a gelatinous nidus.

Rivularia. A gelatinous sub-globose frond, filled with filaments, radiating from a common centre, continuous, placed on a globule, and marked with annulations inside.

Tribe III. Confervoideae.

Filaments jointed either externally or internally, separate, and not combined in any definite form.

Trentep'holea. Filaments flexible, colored, bearing capsules, which generally proceed from the last articulation which is inflated. Inundated or fluviatile.

Scytonema. Plant not gelatinous, coriaceous. Filaments short, forming dark dense tufts, beaded internally, or filled with annular transverse bodies. On rocks or inundated, rarely marine.

Mesogloia. Frond filiform, cylindrical, gelatinous, with compact, somewhat moniliform branches radiating from a medullary pith, and bearing capsules.

Batrachospermum. Frond filiform, gelatinous, sending out from the primary filament moniliform gemmiferous branches.

Draparnaldia. Filaments green, jointed, very gelatinous. Ramuli pencillate fascicled. Fructification—a granular mass in the articulations of the main filaments.

Syngbya. Filaments without a mucous matrix, freely floating, flexible, motionless with a continuous tube, annulated inside.

Bangia. Filaments capillary, mostly simple, tubular, continuous. Fructification—granules disposed in regular transverse series or strata.

Zygnema. Filaments jointed, simple, gelatinous, compressed, fragile, separating at the joints.

MOUGEOTIA. Filaments articulated, connected like a net, with irregularly placed granules, and thecae attached to the angles of the meshes.

CONFERVA. Filaments uniform, jointed, membranaceous, simple or branched, mostly green. Fructification—granules scattered in the articulations. Salt and fresh water.

CERAMIUM. Filaments jointed, sub-dichotomous, red, articulations veined or diaphanous. Fructification—capsules with an involucre of short ramuli. Marine.

POLYSIPHONIA. Filaments jointed, longitudinally striated, with internal parallel tubes. Fructification—double ovate capsules, and granules in swollen branchlets. Marine.

ECTOCARPUS. Filaments jointed, much branched, fuscous. Fructification—lanceolate pods or ovate capsules, solitary or racemous. Marine.

SPHACELLARIA. Filaments jointed, branched, olivaceous, distichous or dichotomous; apex of the branches sphacellate or hyaline, abrupt. Fructification is granules in the modified apex, or capsule. Marine.

TRIBE IV. ULVACEAE.

Frond, membranous, continuous, tubular or flattened, never ribbed, herbaceous rarely purple: seed heaped or scattered granulations.

VAUCHERIA. Filaments dichotomous or irregularly branched, somewhat rigid. Fructification—a granulated mass within the frond, and external dark vesicles variously sinuated.

CODIUM. Frond spungy, of a determinate figure, formed of filaments densely packed, which are tubular and continuous, and colored by a granular, green powder. Coniocystas clustered at the surface of the frond.

SOLENIA. Frond tubular, membranous, with a striated, areolated surface. Seeds very minute and compact.

ULVA. Root scutate. Frond plain, ribless, flabellaform or wedge-shaped, or linear and dichotomous. Fructification naked immersed—granules distributed in fours throughout the frond.

PORPHYRA. Frond flat, purple, with the membrane of equal texture. Fruit two fold—first sori of oval seeds collected in a disorderly manner: second, two parallel lines marked on each side by a globule.

TRIBE V. FLORIDEAE.

Frond coriaceous, rarely membranaceous, flat or filiform, continuous, purple or pink: seeds purple, included in capsules or clustered in dots.

PTILOTA. Root scrutate. Fronds compressed or plane, pinnate. Fructification—a cluster of naked granules, surrounded by a linear cleft involucre.

RHODOMELA. Frond either flat or foliaceous, and somewhat ribbed or filiform. Fruit two-fold: first lomenta filled longitudinally with globules of sporaceous matter, second, capsules with a few pyriform seeds sessile in the capsule (blackish when dry.)

CHONDRIA. Frond continuous, gelatinus-cartilaginous. Fructification double—naked granules immersed in the substance of the ramuli and external tubercles.

SPHAEROCOCCUS. Root scutate. Frond sub-membranaceous or cartilaginous. Fructification uniform—tubercles or capsules.

HALYMENIA. Frond flat or tubular, somewhat membranous. Fruit, dot-like tubercles half immersed in the laminæ of the frond.

DELESSERIA. Root scutate. Frond plane, membranaceous, with or without ribs. Fructification double—tubercles and clusters of naked immersed granules.

TRIBE VI. FUCOIDEAE.

Frond coriaceous, continuous, olive-green, flat or filiform: seed black, in capsules, bordered or immersed.

LEMANEA. Frond filiform, torulose, tubular. Chains of seeds adhering to the inner surface of the filament, pencilled, moniliform. In fresh water.

CHARDARIA. Root scutate. Frond filiform, of an olive color and cartilaginous substance. Fructification—clavate, pyriform, concentric filaments constituting the whole frond.

SCYTOSIPHON. Root scutate. Frond filiform, tubular, sub-coriaceous. Fructification—naked pyriform granules covering the whole frond.

Sporachnus. Root mostly scutate. Frond plane, with distichous branches, bearing, in most instances, delicate pencil-like deciduous tufts of confervoid filaments. ("Receptacles composed of concentric, clavate, articulated corpuscles.")

Zonaria. Root downy. Frond plane, ribless, flabelliform or wedge-shaped, or linear and dichotomous. Fructification—adnate tubercles collected into parallel lines on the frond.

Laminaria. Root fibrous. Stipes dilated into a plane frond. Fructification—naked granules immersed and forming irregular groups in the frond.

Lichinia. Fronds minute, tufted, greenish-black when growing. Fructification—solitary tubercles with a pore, at length scutelliform.

Furcellaria. Frond cylindrical. Fructification concealed in the swollen extremities of the frond, capsules in the centre, and pyriform grandles in the circumference.

Fucus. Root scutate. Frond plane or compressed, (rarely filiform) dichotomous. Fructification—tubercles contained in a common mucose receptacle, and filled with seeds and filaments.

Cystoseira. Root scutate. Stypes cylindrical. Lower leaves plane; upper ones filiform, furnished with pinnate vesicles. Fructification—tubercles in common receptacles, the receptacles with several loculaments.

ORDER V. LICHENES;

ARRANGED ACCORDING TO ACHARIUS.

Tribe I. Idiothalami.

Apothecia differing in color from the rest of the plant, and formed of a distinct substance.

§ 1. *Apothecia simple, entirely formed of a sub-reniform, pulverulent, or cartilaginous substance.* Hemogenii.

*Apothecia destitute of a raised margin.

Spiloma. Plant crustaceous, spreading, plane, adnate, and uniform. Apothecia composed of minute bodies, collected into a compact, homogeneous, sub-pulverulent, naked, and shapeless, colored mass.

Solorina. Plant foliaceous, coriaceous, lobed, separate beneath, and veiny or fibrous, with down. Recept. adnate, roundish, not edged, covered by a colored membrane, and containiug a solid, cellular, bladdery parenchyma.

* *Apothecia with a raised border.

Lecidia. Plant various, crustaceous, spreading, adnate, uniform or foliaceous. Apothecia scutelliform, sessile, surrounded by a cartilaginous membrane; the disk of the same nature as the raised border.

Calicium. Plant crustaceous, plane, spreading, adnate, uniform. Apothecia cup-shaped, sessile or stipulate, cartilaginous, containing a compact pulverulent mass, plane or convex, and forming a naked disk.

Gyrophora. Plant foliaceous, coriaceous, or cartilaginous, peltate, mostly monophyllous, free beneath. Apothecia sub-scutelliform, sessile, or adnate, covered with a black cartilaginous membrane; the disk warty or plaited on circles, or bordered.

§ 2. *Apothecia sub-simple, included, formed of a single covering, containing a capsular body or nucleus.* Heterogenii.

Endocarpon. Plant crustaceous, adnate, of some determinate figure, or foliaceous and peltate. Apothecia globose, concealed in the substance of the plant, surrounded by a thin membrane, furnished with a slightly prominent orifice, and containing a nucleus.

Tribe II. Cœnothalami.

Apothecia partly formed from the substance of the plants.

§ 1. *Apothecia included in wart-like processes, formed from the substance of the plant.* Phymatoidei.

Thelotrema. Plant crustaceous, cartilaginous, plane, spreading, adnate, uniform, with wart-like receptacles, furnished with a wide pore, and bordered. Apothecia included, and containing a nucleus within a double covering.

Pyrenula. Plant crustaceous, plano-expanded, adnate, uniform. Recept. wart-like, formed of the thallus, enclosing or surrounding at the base a solitary thalamium, with a simple, thick, papillose perithecium, containing a globose cellular nut.

Variolaria. Plant crustaceous, plane spreading, adnate, uniform. Apothecia wart-like, formed from the crust (resembling Soredia,) sub-marginate, white, including a naked nucleus.

§ 2. *Apothecia scutelliform, sub-sessile, the disk of a peculiar color, different from the border, which is formed from the crust.* Discoidei.

Urceolaria. Plant crustaceous, spreading, adnate, uniform. Apothecia shield-like, the disk concave, colored, immersed in the crust; border formed from the crust, and the same color.

Lecanora. Plant crustaceous, spreading, adnate, plane, uniform. Apothecia shield-like, thick, adnate, and sessile, the disk plano-convex, colored; border thickish, somewhat free, formed from the crust, and the same color.

Parmelia. Plant foliaceous, between coriaceous and membranaceous, spreading, appressed, orbicular, lobed, and stellate, variously divided, fibrous beneath. Apothecia shield-like, attached by a central point; the disk concave, colored, with a border formed from the crust.

Borrera. Plant cartilaginous, branched, and lacinate; the segments free, channelled beneath, and ciliate at the margin. Apothecia shield-like, with a colored disk; the border formed from the frond.

Cetraria. Plant cartilagino-membranaceous, ascending, or spreading, lobed, smooth, and naked on both sides. Apothecia shield-like, obliquely adnate with the margin, the disk colored, plano-concave: border inflexed, derived from the frond.

Sticta. Plant foliaceous, coriaceo-cartilaginous, spreading, lobed, free and pubescent beneath, with little cavities or hollow spots. Apothecia shield-like, fixed by a central point, the disk colored, plane; border formed from the crust.

Peltidea. Plant foliaceous, coriaceous, spreading, sub-adnate, lobed, with woolly veins beneath. Apothecia orbicular, adnate, on produced portions of the frond, the disk colored: border very thin, formed from the frond.

Nephroma. Plant foliaceous, coriaceous, membranous, expanded, lobed, beneath separate, and naked or villose. Recept. resupinate, formed of the ascending lengthened lobes of the thallus. Fertile laminae reniform, entirely attached to the thallus and its lower side, and surrounded by an elevated inflected margin.

Roccella. Plant coriaceous, cartilaginous, branched, lacinated, round or flat, erect or pendulous, woolly inside. Recept. shield-like, thick, growing into the thallus. Fertile lamina forming a disk, plano-convex, colored, and cartilaginous, in the inside hyaline, and of a similar nature, surrounded by a margin, which is elevated, sessile, and as deep as the disk, and which contains a compact, black powdery moss, which is hidden within the substance of the thallus.

Evernia. Plant branched, lacinate, angular, or compressed, sub-erect, or pendulous, with a central filament within. Apothecia shield-like, sessile, the disk concave, colored; border formed from the frond.

§ 3. *Apothecia sub-globose, terminating the branches or podetia, or scattered sessile and emarginate.* Cephaloidea.

*Apothecia covered by the mass of fructification.

Cenomyce. General receptacle sub-cartilaginous, foliaceous, lacinate sub-imbricate, free, (rarely adnate, uniform, or wanting.) Apothecia or podetia orbicular, immarginate, at length capituliform, bearing thick colored masses of fructification.

Bæomyces. Plant crustaceous, spreading, plane, adnate. Apothecia on short, soft, solid, simple podetia, capituliform, solid, emarginate, colored, convex, reflexed at the margin.

Isidium. Plant crustaceous, plane, spreading, adnate, uniform. Apothecia on short, soft, solid, simple podetia, orbicular, convex, solid, terminal; the disk sub-immersed, having a border formed from the substance of the podetia.

Stereocaulon. Plant shrubby, cartilagenous, branched. Apothecia turbinate, sessile, solid, plane above, at length sub-globose, with a border formed from the frond.

* **Apothecia clothed with the substance of the frond, and containing a pulverulent mass.*

Spaerophoron. Plant cartilaginous, fibrous within, solid, shrubby, branched. Apothecia sesslle, terminal, sub-globose, bursting irregularly, and containing a black, globular, pulverulent mass.

Tribe III. Homothalami.

Apothecia entirely formed of the substance of the frond.

Alectoria. Plant cartilaginous, sub-filiform, fibrous, and somewhat fistulose within, branched, prostrate or pendulous. Apothecia shield-like, thick, sessile, bordered, wholly formed from the frond.

Ramalina. Plant cartilaginous, fibrous, and nearly solid within, branched somewhat shrubby, mostly soderiferous. Apothecia shield-like, thick, sub-pedicellate and sub-peltate, plane, bordered, wholly formed from the substance of the frond.

Cornicularia. Plant cartilaginous, fibrous and nearly solid within, branched, shrubby. Apothecia orbicular, terminal, obliquely peltate, at length convex, somewhat inflated; the border dentate.

Usnea. Plant much branched, filiform mostly pendulous, furnished within with a bundle of elastic fibres. Apothecia orbicular, terminal, peltate, often ciliate at the border.

Collema. Plant sub-gelatinous, homogeneous, crustiform, foliaceous, or somewhat branched, membranaceous or cartilaginous when dry. Apothecia shield-like bordered, formed from the substance of the frond; the disk sometimes differing in color when dried.

Tribe IV. Athalami.

Lichenes destitute of Apothecia, and whose fructification is unknown.

Lepraria. Whole plant crustaceo-pulverulent, spreading, adnate, uniform. Apothecia unknown.

Tribe V. Pseudo-Lichenes.

Apothecia black, corenous, imbedded in a receptacle· Seeds in slender tubular cells, lying in a pulp, not spontaneously emitted.

Opegrapha. Plant crustaceous, flat, expanded, adnate, uniform. Receptacle oblong and elongated, sessile, covered with a cartilaginous dark membrane, enclosing a solid parenchyma. Disk linear, edged on each side.

Verrucaria. Plant crustaceous, plane, expanded, adnate, uniform. Recpt. hemispherical, roundish at the base, growing into the thallus, with a double perithecium; exterior somewhat cartillaginous and thick, having alone a little pimple or perforation; inner very fine, and membranous. Kernel cellular.

Porina. Plant crustaceous, cartilaginous, plano-expanded, adnate, uniform. Recept. wart-like, formed out of the thallus, and not margined. Thalamium imbedded in the substance of the wart, with a simple very thin perithecium, and a colored orifice thicker at the surface of the wart. Kernel roundish, cellular.

Arthonia. Plant crustaceous, plano-expanded, adnate, uniform. Recpt. innate, aessile of an irregular roundish figure, without an edge, covered by a somewhat cartillaginous membrane, and containing a solid uniform kernel.

Graphis. Plant crustaceous, plano-expanded, adnate, uniform. Recept. long, immersed in the thallus, with a simple cartillaginous perithecium, which forms an edge all around the linear kernel, which is naked at top and bottom, and cellular inside.

ORDER VI. FUNGI.

ARRANGED ACCORDING TO FRIES OF SWEDEN.*

AGARICINAE.

SEED-BED DISTINCT. RECEPTACLE LONGER OR EXPANDED, SUPERIOR.

Pileate.

Receptacle dilated, occasionally branched, having a tendency to an orbicular form. Seed buds inferior.

Agaricus. Seed-beds in lamellæ. Lamellæ simple, parallel.

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* According to Schwinitz, a system of Fungi and Lichens for Germany, Sweden, &c., is a system for N. America; on account of their similarity. I am indebted to Loudon for Fries' system; also for many other improvements in this order.

Cantharellus. Seed-bed veined. Veins dichotomous, sub-parallel: sometimes anastomosing.

Merulius. Seed-bed veined. Veins flexuose, or forming very irregular pores. Plants sessile, resupinate or effused.

Schizophyllum. Seed-beds in lamellæ. Lamellæ bifid lengthwise, revolute.

Dædalea. Seed-bed sinuous, composed of anastomosing lamellæ or flexuose elongated pores.

Polyporus. Seed-bed porous, not separable from the substance of the pileus, nor the pores from each other. Pores sometimes lacerated in age. Pileus very rarely with a central stipe.

Favolus. Pores ample, with four or six angles resembling an honey-comb.

Boletus. Seed-bed tubular. Tubes separable from the pileus and from each other. Pileus always with a central stipe.

Fistulina. Seed-bed tubular. Tubes loose, the young ones closed.

Hydnum. Seed-bed subulate, subulæ loose.

Sistotrema. Pileus carnose, irregularly stipitate. Seed-bed composed of dentate interrupted lamellaæ.

Phlebia. Seed-bed rugose, formed of long or confluenent papillæ.

Thelephora. Plants with very few exceptions more or less adnate, thin, coriaceous, very rarely funnel-form. Seed-bed covering the outer surface.

Clavita.

Receptacle long, simple, or branched, with a tendency to a cylindrical form, not margined. Seed-bed superior.

Clavaria. Plants carnose, cylindrical, simple or branched. Seed-bed smooth, occupying almost the whole surface, confluent with stipes.

Calocera. Plants branched or simple, cylindrical, homogeneous, corneous, gelatinous, viscid. Growing on wood.

Geoglossum. Seed-bed short, club-shaped, mostly compressed; stipitate. Stipes elongated, smooth or hairy. Plants black or dull green.

Spatularia. Seed-bed club-shaped, separate, compressed, running down the stipes on each side, bearing the asci at the upper end.

Mitrata. Seed-bed clavate, ovate, closely surrounding, at the base, the stipe which is distinct.

Typhula. Seed-bed thin, sub-cylindrical, persistent, terminating the capillary stipes.

Pistillaria. Simple contiguous, linear or clavate. Seeds emerging at the end.

Elvellaceae.

Hymenium distinct, superior, margined. Receptacle urceolate or reflexed, always inferior.

Morchella. Pileus lacunose, confluent with the stipes either at the margin or a little above it. Seed-bed occupying the whole outer surface.

Verpa. Pileus conicle-deflexed, equal. Seed-bed smooth or rugose.

Leotia. Pileus ovate-conicle or orbicular, wholly occupied by the seed-bed, the margin free but closely embracing the stipes.

Receptacle cupulate, equal. Seed-bed discoid, when young somewhat closed, surrounded by the margin of the receptacle.

Peziza. Pileus mostly carnose, sessile or stipitate, more or less cup-shaped at length. Sometimes plane. Seed-bed occupying the disk.

Bulgaria. Cupula closed at first. Seed-tubes immersed with paraphyses, becoming separate and bursting out. Gelatinous.

Ditiola. Seed-bed becoming plaited and deliquesecnt. Cupula open. Veil universal. Corky.

Cenangium. Seed-bed smooth, persistent, rarely deliquescent. Cupula closed, but opening finally. Somewhat coriaceous.

Stictis. Seed-bed smooth, immersed. Cupula obliterated. Seed-bed persistent.

Tremellini.

Tremella. Receptacle gelatinous homogeneous, fructifying in all directions, without papillae. Seeds nearly emerging.

Exidea. Receptacle gelatinous, homogeneous, covered on the upper surface only by a papillose hymenium. Seeds emitted with elasticity.

Dacrymyces. Receptacle gelatinous, homogeneous, filled with assurgent flocci, and seeds placed in layers inside. When young, compact, but finally deliquescent.

Agyrium. Receptacle spherical, smooth, compact, waxy, when humid, gelatinous, finally crumbling away in seeds.

Hymenella. Receptacle flattened, adnate, smooth, like soft leather, very thin, persistent.

Naematelia. Receptacle gelatinous, surrounding a compact heterogeneous nucleus. Seeds emerging.

Acrospermum. Elongated, somewhat clavate, with a coat of a similar substance, distinctly fructifying at the end.

Sclerotium. Sub-globose, or without regular form within, homogeneous, vesiculose, carnose, or corneous. Sporules unknown.

Periola. Rootless, fleshy, covered entirely by a villose persistent coat.

Acinula. Rootless, smooth, with a distinct farinaceous granular coat.

Erysiphe. Sporangium epiphyllous, very minute, globose, furnished with white radiating subjacent filaments, and containing sporuliferous bodies.

Phallus. Stipes issuing from a volva. Pileus furnished with large cells filled with a sporuliferous shining substance.

Tuber. Envelope closed, marbled with veins inside. Sporangia stalked, scattered among the veins. Subterraneous.

Rhizopogon. Envelope sessile, bursting with irregularity with anastomosing veins inside. Sporangia sessile. Above ground.

Nidularia. Common peridium simple, flocculent, furfuraceous, disappearing. Sporangia globose, with seeds in heaps in the middle.

Myriococcum. Peridium simple, flocculent, furfuraceous, disappearing. Sporangia globose, with seeds in round heaps.

Polyangium. Peridium simple, membranous. Sporangia oblong, filled with a grumous mass.

Carpoboli.

Envelope protruding a solitary separate sporangium.

Attractobolus. Peridium cupulae-form, with a lid. Sporangium fusiform, with mucous seeds.

Thelebolus. Peridium sessile, urceolate-ventricose with an entire orifice. Sporangium papillae-form with mucous seeds.

Pilobolus. Stipes or receptacle pellucid, watery. Peridium a roundish vesicle, bursting elastically, placed on the apex of the receptacle.

Sphaerobolus. Peridium double, both stellate; the inner membranous by inversion throwing out with elasticity a globose sporangium, bearing in the middle heaped seeds.

PYRENOMYCETES.

Envelope genuine, forming the receptacle. Seeds disposed in seed-tubes in regular rows.

Sphaeriacei.

Sphaeria. Receptacle 0. Spherules sessile or slightly immersed.

Lophium Perithecium vertical, compressed, dehiscing by a longitudinal somewhat closed cleft. Seed tubes crumbling away.

Cytisporei.

Sphaeronema. Perithecium opening by a pore, enclosing in a very thin bag some mucous seeds, which burst forth and become indurated in a globose form. Naked.

Septaria. Cloud-like spots on dead leaves: seeds with partitions, or septa.

Cytispora. Cellular—many-celled; cells deformed, membranous, united at the ends. Nucleus gelatinous, filled with sporules, propelled through the common elongated orific.

Phoma. Nucleus grumous, enclosed in a tubercle. Seeds emitted by a simple orific without regularity.

Phacidiacei.

Perithecium finally bursting, with an open disk. Seed tubes erect, fixed.

Dothidea. Nucleus enclosing immersed cellules. True perithecium obliterated. Seed-tubes erect, remaining for a long time.

Rhytisma. Perithecium deformed, bursting into transverse fragments by means of a flexuous crack.

Phacideum. Receptacle 0. Perithecia sessile, depressed, bursting from the centre towards the circumference in several acute segments. Sporuliferous cells elongated, fixed.

Hysterium. Perithecia mostly oblong, black, corneous, bursting by a longitudinal slit. Sporuliferous tubes erect. (Crust none.)

Xylomacei.

Seed tubes obsolete. Seeds innate.

Actynothyrium. Perithecium buckle-like, with radiating fibres covering the fusiform seeds.

Leptostroma. Perithecium uniform, without an orifice, but entirely separating and exposing a very thin disk.

Trichospermi.

ENVELOPE GENUINE, FORMING A RECEPTACLE. SEEDS INTERMIXED WITH FLOCCI.

Lycoperdinei.

Envelope of a determinate figure, fleshy when young. Flocci copious.

Onygena. Sub-globose with a fibrous stipe. Peridium crustaceous, fragile, with interwoven fibres. Sporules naked, compactly clustered.

Tulostoma. Globose stipitate. Involucrum none. Peridium opening by a bordered pore in the summit. Sporules scattered in it.

Scleroderma. Sporangium globose or prolonged into a stipe. Peridium single, coriaceous, mostly warty, bursting at the apex or sub-dehiscent. Seeds connected into little contiguous distinct globules mixed with filaments.

Lycoperdon. Sporangium globose. Peridium single, membranaceous, scaly, with warts or soft spines bursting irregularly at the apex, and containing a mass of seeds and filaments.

Bovista. Sporangium globose. Peridium double; the outer one adnate; cracking, somewhat fugacious; inner one bursting at the apex, and containing a mass of filaments and pedicellated seeds.

Geastrum. Globose sessile. Involucrum coriaceous, stellate. Peridium membranous. Seeds on stalks from the first.

Trichocisti.

Envelope regular, when young pulpy. Seeds having numerous flocci scattered among them.

Craterium. Peridium oblong, stipitate, operculate, containing a cellulose, filamentuous, sporuliferous mass.

Stemonitis. Cylindrical or sub-globose. Peridium fugacious. Filaments forming a reticulated mass, perforated by the stipes to which they are attached. Seeds intermixed.

Cribraria. Globose stipitate. Peridium crumbling to pieces entirely or for the most part.

Arscyria. Mostly cylindrical. Peridium fugaceous, except a small portion at the base. Filaments abundant, reticulated, fixed at the base. Seeds intermixed.

Leangium. Minute sub-globose or irregular. Peridium single, membranaceous, bursting into sub-regular, persistent, expanding segments. Filaments attached at the base and surrounding a columella.

Trichia. Minute sub-globose or irregular. Peridium single, membranaceous, bursting. Filaments involute, attached at the base, and expanding elastically.

Physarum. Sporangium minute, mostly stipitate sub-globose. Peridium single, membranaceous, bursting and deciduous in distinct portions. Seeds mixed with a mass of filaments.

Fuliginoidei.

Envelope somewhat deformed, sessile, when young pulpy, seeds separated by flocci.

Lycogala. Sessile globose or sub-irregular, pulpy when young. Peridium single, fragile, variously dehiscent. Seeds mixed with a few filaments.

Spumaria. Form irregular, roundish, effused. Peridium soft, at length membranaceous, fragile. Seeds contained in the folds of a branched, elongated, membranaceous, persistent process.

Liceoidei.

Flocci obsolete.

Dichosporium. Flattened hemispherical. Peridium membranaceous, coated with a layer of granules. Seeds in globose masses.

Licea. Peridium membranaceous, sessile, fragile, inclosing a pulverulent mass of seeds unmixed with filaments. (No subjacent membrane.)

Mucoroidei.

Peridium formed of flocci loosely woven together, vanishing in the middle. Seeds in heaps.

Mucor. Peridium membranaceous, globose stipitate, pellucid, at length opake. Pedicel simple or branched, tubular, articulated.

Thamnidium. Stipes branched at the base: branches bearing solitary globules at their end. Peridium globose.

Ascophora. Peridium membranaceous, stipitate, bursting at length, turned inside out, convex and sub-persistent. Pedicel simple or branched, tubular, pellucid, articulated.

Perisporia.

Persiporium thin, somewhat membranous, bursting. Seeds immersed, scarcely distinct.

Eurotium. Peridia membranous, sub-globose, with an articulated floccose innate receptacle. Seeds naked in masses.

Hyphomycetes.

Cephalotrichi.

Receptacle distinct, covered over with flocci, with seeds scattered among them.

Ceratium. Filaments very short, pellucid, simple, minute, attached to a membranaceous, plicate, simple or branched, filiform receptacle.

Isaria. Filaments minute and pellucid, attached to an elongated, simple or branched, clavate, carnose receptacle.

Stilboidei.

Fibres grown together upon the receptacle. Seeds enclosed in a separate naked head.

Stilbum. Minute. Stipes slender, bearing a little round solid head, which is pellucid and semifluid at first, at length more dense and opake.

Inomycetes.

Fibres genuine, somewhat separated by divisions. Receptacle none. Upon putrescent organic matter.

Byassacei.

Opake fibres, bearing seeds inside, when fertile jointed, when sterile contiguous. Repel moisture.

Torula. Thallus composed of branched, rigid, fragile, moniliform, sub-opake filaments, the articulations minute, globose.

Monilia. Fibres numerous, erect, opaque, distinctly articulated, permanent. Articulations ovate.

Racodium. Thallus composed of branched, decumbent, interwoven, persistent, sub-opake filaments, among which are sometimes granules of moniliform filaments.

Cladosporium. Thallus composed of erect, rigid, sub-opake, jointed, simple or branched, aggregate filaments. Seeds ovate, attached in a series to the filaments, deciduous.

Helicosporium. Fibers erect, rigid, nearly simple, opake. Seeds spiral, remotely jointed; some that are fugacious scattered among them.

Ozonium. Thallus composed of decumbent, branched, entangled filaments: primary ones thick, irregular; ultimate ones fine-jointed.

Mucedines.

Flocci pellucid, with dissepiments, bearing seeds on the outside.

Sepedonium. Thallus formed of entangled. filaments, spreading within putrefying fungi. Seeds scattered, globose. (Bright yellow.)

Acremonium. Thallus composed of decumbent, entangled, branched, pellucid filaments. Seeds globose, solitary, pedicellate.

Sporotrichum. Thallus minute, tufted or expanded. Seeds scattered among the branched, tubular jointed filaments.

Trichothecium. Filaments minute, branched, forming a tufted thallus. Seeds scattered, sub-globose, didymous.

Botrytis. Thallus composed of decumbent, entangled, branched, pellucid filaments. Seeds globose, solitary, pedicellate.

Aspergillus. Thallus composed of minute, pellucid, scattered or tufted filaments, apex of the main filament mostly clavate, on which is a head of (often beaded,) seeds.

Stachylidium. Thallus composed of tufted, pellucid filaments: sterile ones procumbent: fertile ones erect, whorled, with ramuli near the top, among which the seeds are collected.

Penicillium. Thallus composed of tufted pellucid filaments: sterile ones procumbent; fertile ones erect, bearing a terminal pencil-like tuft of erect ramuli, to which the seeds are attached.

Trichoderma. Seeds collected in the centre, free, the filaments woven into a web-like covering, at length opening at the apex and discharging the globose seeds.

Phlyleriaceac.

Fibres spurious, contiguous, bearing seeds inside. Receptacle none. On living leaves.

Rubigo. Fibres infundibuliform or clavate, twisted, situated in patches upon sickly leaves.

Erineum. Perideæ flocciform, sub-diphanous, various, sub-simple, aggregate-cespitose, parasitic on living leaves. Seeds sometimes, but rarely evident.

Coniomycetes.

Seeds naked, without any hetrogeneous receptacle.

Tuberculariae.

Seeds naked, simple, scattered over the receptacle.

Exosporium. Dots one 36th of an inch in diameter, black, heaped, bursting beneath the cuticle, bristly.

Entophytae.

Seeds naked, separate, without a receptacle.

Stilbosporei.

Fusidium. Thallus plane, effused. Filaments short, branched. Seeds fusiform, scattered.

Polythrincium. Black dots, which magnified, are roundish tufts of filaments, smallest near the margin: filaments semitransparent, clavate, articulated, erect, simple.

Stilbospora. Black. Receptacle 0, or a pulverulent mass intermixed with naked seeds, the whole bursting through the bark in the manner of a Stromatosphæria.

Sporidermium. Composed of long-linear or clavate, semi-opake bodies, level-topped, transversely partitioned: under the eye black, on Thelephora, &c.

Hypodermia.

Parasites upon living plants.

Uredo. Epidermis of the leaf forming a pseudo-peridium. Seeds 1-celled, free, mostly globose.

Aecidium. Peridium membranaceous, bursting through the epidermis, and dehiscent at the apex, with a dentate or lacerate orifice.

Puccinia. Epidermis of the leaf forming a pseudo-peridium. Seeds fixed by a pedicel, one or many-celled.

NORTH AMERICAN PLANTS.

SPECIES,

ACCORDING TO AN ALPHABETICAL ARRANGEMENT OF THEIR RESPECTIVE GENERA.

A.

Abies, PINUS.

15—12. ABU'TILON. 74. Mal. muc. nut.

avicennae, Gaert. (1) (indian mallows, y. Ju. ☉.) leaves round-cordate, acuminate, toothed, tomentose; peduncles solitary, shorter than the petioles: carpels 2-awned, truncate, inflated. Mich.

nuttallii, T. (♃.) leaves cordate, acuminate, softly pubescent, irregularly serrate; peduncles axillary, 1-flowered, shorter than the petiole; carpels 8, pubescent, obtuse and pointless, 3-seeded. Arkansas.

texensis, T. (♃?) leaves cordate-ovate, acute, softly pubescent, serrate; peduncles somewhat racemose at the upper part of the branches, 1-flowered; carpels 8, pubescent, acute, erect, 3-seeded. Texas.

15—10. ACA'CIA. 93. Leg. nut. asc. aper.

Southern.

farnesia'na, (black thorn. W. y. ♄.) spinous: leaves bipinnate; leafets 8-paired: spikes globose, sessile. Flowers fragrant, legumes fusiform. 10 f. New Orleans.

lu'tea, Leavenworth. (W. y. Ju. ♃.) unarmed, glabrous: leaves bipinnate: leafets very numerous, oblong-linear: spikes sub-globose, solitary: peduncles axillary, very long: legume obovate, large. Resembles Schrankia uncinata.

cool'eyi, Ea. (W. w. ♃.) leaves bipinnate, very irritable: legumes linear: elongated, smooth: spikes capitate. Described by Torrey, but not named.

19—15. ACAL'YPHA. 96. Euph. ton. irri. sto.

vir'ginica, (three-seeded mercury. O. g. Au. ☉.) hairy: pistillate flowers at the base of the staminate spike: involucres heart-ovate, acuminate, toothed: leaves short-petioled, lance-oblong, remotely and obtusely serrate. Coarse and unsightly. Varies much in the density of its leaves and in height. 10 i. *S.*

car'olinia'na, Wr. (O. g. Ju. ♃.) leaves on long petioles, lance-oval, acuminate, acutely serrate, nerved, slightly cordate at the base: fruit-bearing branches generally naked: capsule echinate. The existence of this species in the Northern States is questioned. 18 in. *S.* T. P. O.

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(1) Sida Abutilon.

Abutilon. Gr. *a* negative, *bous* cattle, (or *aboutes*) unfit for cattle's food; though it appears otherwise.

Acacia. Gr. *akakia*, from *akazō* to sharpen, in allusion to its thorny habit.

Acalypha. Gr. *a* not *kalos* agreeable and *aphe* to touch, disagreeable to handle.

8—1. A'CER.* 65. Aceri. nut. ton. sug.

rubrum, (red maple, soft maple. O. r. Ap. ♄.) leaves palmate, 5-lobed, cordate at the base, unequally gash-toothed, glaucous beneath, dividing incisions between the lobes acute: flowers in fives, in sessile umbels, with long pedicels: germs glabrous. 50 f. *S.* Mich.

da'sycar'pum, (1) (white maple, silver maple. O. g-y. ♄.) leaves palmate-5-lobed, truncate at the base, unequally gash-toothed, glabrous and glaucous beneath, obtusely sinuate: flowers glomerate; pedicels short: germs downy. 50 f. *S.* P. B. T. Mich.

barbatum, Mx. (2) (hairy maple, w-g. Ap. ♄.) leaves heart-ovate, short-3-lobed, unequally serrate, glaucous beneath, and hairy at the nerves: peduncles hairy, staminate ones branching, pistillate ones simple: calyx bearded within: wings of the capsules erect. Small. 15 f. *S.* T. Y.

sacchari'num, (sugar maple, rock maple, hard maple. O. r-y. M. ♄.) leaves palmate-5-lobed, at the base sub-cordate, acuminate, obtusely sinuate, sinuate-toothed, glaucous beneath: peduncles in a nodding corymb. Large tree. 50 f. *S.* Mich.

ni'grum, Mx. (sweet-tree, black maple. W. y. Ap. ♄.) leaves palmate 5-lobed, cordate with the sinus at the base closed, lobes spreading somewhat sinuate-toothed, downy beneath: flowers corymbed: capsules turgid, sub-globose. Large tree, affording almost as much sugar as the last. 50 f. *S.* T.

striatum, Mx. (3) (striped maple, false dogwood, moose-wood. O. g. M. ♄.) lower leaves roundish, upper ones 3-cuspidate-acuminate, sharply serrate, glabrous: racemes simple, pendant. Small tree, with a greenish-striped bark. 15 f. *S.* T. Mich.

spicatum, Lk. (4) (mountain maple bush. A. y-g. M. ♄.) leaves sub-5-lobed, acute, toothed, pubescent beneath: racemes compound, erect. 15 f. *S.* T. O. N. Mich.

macrophhyl'lum, Ph. (W. g-y. Ap. ♄.) leaves digitate-5-lobed; sinus rounded, lobes somewhat 3-lobed, repand-toothed, hairy beneath: racemes erect: filaments 9, hirsute. 40 f. West of Rocky Mountains.

cir'cina'tum, Ph. (W.) leaves orbicular, sub-cordate at the base, 7-lobed, unequally acute-toothed, glabrous both sides, nerves and veins hairy at the axils.

glabrum, T. & J. (W.) leaves roundish, 5 or 7-lobed, truncate at the base, lobes acutely toothed, glabrous both sides: corymbs peduncled: fruit glabrous, with broad-ovate diverging wings. R.

tripartitum, N. (♄.) leaves sub-reniform-orbicular, 3-cleft or 3-parted, segments incisely toothed, the middle one cuneiform, often slightly lobed, the lateral ones somewhat rhomboid; racemes corymbose; fruit glabrous, with very short and broad cuneate oval, diverging wings. A shrub with whitish smooth branches. Rocky Mountains.

grandidentatum, N. (♄.) leaves slightly cordate or truncate at the base, rather deeply 3-lobed; the sinuses broad and rounded, lobes slightly acute, with few sinuous indentations; corymb nearly sessile, few-flowered, the pedicels long and nodding; fruit glabrous, with small diverging wings. A shrub or low tree, with pale, smooth branches and small leaves. Rocky Mountains.

18—5. ACER'ATES. (5) 47. Ascl. acr. stim. sud.

vir'idiflo'ra, Ph. (green milkweed, E. g. Ju. ♃.) stem simple, erect, hirsute; leaves lance-oblong, obtusish, sub-sessile, downy-hirsute both sides: umbels lateral, solitary, sub-sessile, nodding, sub-globose, dense flowered: no little horn in the nectarines. Dry. 3 f. *S.* H. C.

lan'ceola'ta, Ives. (E. g. Ju. ♃.) stem decumbent, hirsute: leaves lanceolate, acute, sub-sessile: umbels hirsute, lateral, solitary, sessile, sub-globose, dense-flowered, nodding: no little horn in the nectaries. Dry sandy plains. A very distinct and well defined species. 30 i. *S.* H. C. Mich.

lon'gifo'lia E. Mx. (E. w-r. M. ♃.) stem decumbent: leaves alternate, linear: umbels lateral, erect: nectary very short: no little horn in the nectaries. 2 f. Mich.

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*The species *negundo* now constitutes a new genus; which see in the species part.

Acer. Lat. *acer* hard or sharp; pikes and lances being made of it.

Accrates. Gr. *a* without and *keras* horn; it having no nectary horn.

(1) eriocarpum, Mx. (2) carolinianum, Wr. (3) pennsylvanicum, W. (4) montanum, W. pennsylvanicum, Wm. (5) Asclepias, Gomphocarpus.

Southern.

nuttall'ia'na, T. (W. g. ♃.) small, decumbent, hirsute: leaves oblong-ovate, scattered, acutish, short petioled; umbels terminal: nectaries entire, close-pressed: masses of pollen short: no little horn in the nectaries. 6 i. This is the lanuginosa of Nuttall.

obovata, E. (E. ♃.) leaves obovate, obtuse, mucronate, tomentose on the under surface: umbels sub-sessile, terminal and axillary. 2—3 f.

17—2. A'CHILLE'A. 55. Anthe. sec- stim. ton.

mill'efo'lia, (yarrow, milfoil. O. w. J. ♃.) leaves 2-pinnatifid, downy: the divisions linear, toothed, mucronate: involucre and stem furrowed. 15 i. *S.*

ptarmica, (sneeze-wort. w. Au. ♃.) leaves linear, acuminate, equally and sharply serrate, glabrous. Damp. 15 i. Y. Pun. sal.

setacea, P. (W. w. Ap. ♃.) leaves bipinnate: leafets setaceous-linear, mucronate, pilose, crowded: corymb compound, fastigiate. 18 i.

Southern.

tomentosa, W. (W. y. J. ♃.) leaves 2-pinnatifid, villose; divisions crowded, lance-linear, entire: corymbs compound.

asplenifolia, V. (r. ♃.) radical leaves 2-pinnatifid, cauline ones gashed with divisions ovate, serrate-mucronate, obtuse.

12—1. ACHLYS. 78. Berb. ref. ton.

triphylla, Dc. (♃.) leaves radical, long-petioled, terete: scape longer than the leaves, erect: spike terminal. Fort Vancouver, Oregon.

Achnantherum, AGROSTIS.

15—5. ACHYRAN'THES. 30. Amaran. diu. ast.

Southern.

repens, E. (1) (forty-knot. E. March. ♃.) stem prostrate, hairy; leaves opposite, petioled, lanceolate: flowers in sessile, ovate, axillary heads. Charleston, S. C.

ficoi'dea, W. (E. Ju. ♃.) stem creeping, glabrous: leaves broad-lanceolate, petioled: flowers in spherical, pubescent heads. Charleston, S. C.

17—2. ACMEL'LA. 55. Helian. sec- stim. ton.

Southern.

repens, E. (E. y. S. ♃.) stem creeping: leaves lance-ovate, toothed, 3-nerved, sub-pubescent; peduncles axillary and terminal, very long, 1-flowered. 18 i.

oc'cidenta'lis? N. (E.) stem creeping, sub-pubescent: leaves ovate, crenate, obsoletely 3-nerved, smooth, petioled, peduncle axillary, grooved: involucre minute. Resembles a Rudbeckia. Peduncles 3 inches long.

20—5. ACNI'DA. 29. Cheno. ton. nut.

can'nabi'na, (water hemp. L. w-g. Ju. ☉.) leaves lanceolate: capsules smoothish, acute-angled. Damp or wet, both on salt marshes and inland. 3 f. *S.* H. N. Mch.

ruscocar'pa, (w-g. Ju. ☉.) leaves lance-oval: capsules rugose, obtuse-angled. Damp. *S.*

12—5. ACONI'TUM. 61. Ran. acr. caus. poi.

uncina'tum, (monk's hood. W. b. J. ♃.) stem flexuose: leaves palmate, 3 to 5-parted; divisions rhomb-lanceolate, gash-toothed: upper lip of the corol lengthened, convex, beaked. Cultivated. 2 f. *S.* M. P.

Achillea. From a Greek physician, Achilles, who used it in medicine.
Achlys. Gr. *achlus* shady places; growing in shady places.
Achyranthes. Gr. *achuron* chaffy and *anthos* a flower.
Acmella. Gr. *acme*, point, on account of the prickly taste of the leaves.
Acnida. Gr. *a* without and *knide* a nettle or sting; a stingless nettle.
Aconitum. Gr. *akone*, a cliff or rugged rock, its place of growth.

(1) Gomphrena polygodoides, L. Illecebrum achyrantha, Wr. and puleginoides. Mx.

napellus, (wolf's bane. b. J. ♃.) leaves shining, 5-parted; the divisions 3-parted by gashed incisions, sub-divisions linear: upper lip of the corol lanceolate, ascending, 2-cleft; spur strait, obtuse. 2 f. West of Rocky Mt. Cultivated.

nasutum, Sr. (W.) nectaries erect, spur arched: helmet conic, beak bent down: racemes sub-panicled: divisions of the leaves broadish. West of Rocky Mt.

columbianum, N. (♃. w. b.) petals erect, with the spur arcuate; helmet narrow and oblong: beak small and acutely projecting; stem attenuated; panicle small and racemose; leaves palmate, 5 to 7-cleft; segments rhombic-ovate, acute, incisely and sharply toothed; petioles very short. Oregon.

6—1. A'CORUS. 7. Aroi. war. acr. aro. *cat. ast.*

cal'amus, (sweet flag, calamus. O. g-y. J. ♃.) spike protruding from the side of a sword-form leaf-like scape. Water or wet. Root strongly aromatic. 2 f. S. O. T. B. Mch.

21—1. ACROS'TICHUM. 5. Fili. sec. stim.

Southern.

aureum, Mx. (forkfern. Ju. ♃.) frond pinnate; leafets stiped, bases wedge-form, lance-oblong, entire, acuminate; the upper ones fruit-bearing. Very large, 4 or 5 feet high.

12—1. ACTAE'A. 61. Ran. acr. caus. poi. antis. exp. *cat.*

rubra, W. (1) (baneberry. O. w. M. ♃.) petals shorter than the stamens, acute; pedicels of the hemispheric raceme less than the general peduncles when mature. Berries red. Bw. MS. 2 f. S. Mch.

alba, Bw. (necklace weed, white beads. O. w. M. ♃.) petals equalling the stamens, truncate: pedicels of the oblong raceme as large as the general peduncle, when mature. Berries white. The leaves of both species are decompound. 2 f. Mch.

arguta, N. (♃. W.) raceme oblong, sometimes divided towards the base, loose: pedicels longer than flowers, filiform, scarcely thickened in fruit: petals oblong, obtuse, shorter than the stamens; fruit sub-globose, red; leafets doubly and incisely serrate. Oregon.

17—2. ACTINEL'LA. (2) 55. Helian. sec. stim. ton.

Southern.

acau'lis, (W. y. J. ♃.) pilose: scape 1-flowered, naked: leaves linear-spatulate, entire: rays 8 to 10: chaffs of the egret 5 to 7, ovate, short-awned. 6 i.

Actinochloa, ATHEROPOGON.

17.—3. ACTINOME'RIS. 55. Helian. sec. stim. ton.

squarro'sa, N. (W. w. y. Au. ♃.) stem erect, winged, pubescent and panicled above: leaves lanceolate, serrate, scabrous: involucre spreading, loose: receptacle sub-globose, at length squarrose. 3 f. S. H. K. Mis.

Southern.

helianthoi'des, (W. y.) leaves lanceolate, acute, serrate, under side white-villose: corymb simple, compact. Stem winged.

alata, (E.) leaves ovate, acuminate, serrate, 3-nerved, opposite, decurrent.

pauciflora, N. (W.) simple? leaves oblong or oblong-ovate, serrulate, decurrent: peduncles few-flowerad, long and naked. Florida.

Acorus. Gr. *a* without & *kore* the pupil of the eye; it being once supposed good for sore eyes.

Acrostichum. Gr. *akros* highest and *stikos* order, from the row of leafets at the top.

Actaea. From Acteon, a hunter of antiquity; or from Gr. *aktaia*, the elder, from its resemblance to that plant.

Actinella. A diminutive of Actinea, of *aktin* a ray, from its wide spread rays.

Actinomeris. Gr. *aktin* a ray and *meris* a part, the flower being imperfect, with respect to rays.

(1) brachypetala, Dc. americana, Ph. spicata, Mx. pachypoda, E. (2) Actinea, Galardia.

Adelia, BORYA.

21—1. ADIAN'TUM. 5. Fib. sec. stim. ton. pec.

pedatum, (maiden hair. O. J. ♃.) frond pedate, with pinnate branches; leafets halved; upper margin gashed—barren segments toothed, fertile ones entire: stipe cappillary, very glabrous. Woods. 1 f. *S.* Mch. Makes cappellaire.

16—5. ADLUMIA. 93. Fum. diu. ape. dia.

cirrhosa, Raf. (climbing colic-weed. O. y. w. J. ♂.) stem climbing, leaves cirrous: racemes axillary, corymbed, nodding; corol monopetalous, gibbous both sides of the base. S. Cultivated. This is the Corydalis fungosa of Kent. Mch.

12—13. ADO'NIS. 61. Ran. acr. caus. poi. emm.

Exotic.

autumna'lis, (pheasant's eye. Au. ☉.) flowers 5 to 8-petalled: fruit sub-cylindric: petals erose, or emarginate.

8—4. ADOX'A. 84. Saxi. ast.

Southern.

moschatel lina, (tuberous moschatel. W. g.) peduncles about 4-flowered: filaments united in pairs at the base; anthers roundish.

3—2. AE'GILOPS. 10. Gram. ton. far. ton.

Southern.

hystrix, N. (W. ♃.) spike squarrose, with long, recurved, divergent awns; glumes smooth, generally 4-parted to the base: segments mostly 2-cleft, unequally 2-awned: spikelets about 4-flowered: dorsal valves of the paleas terminated by 2 or 3 unequal awns. 6 i.

16—10. AESCHYNOM'ENE. 93. Sega. ant. ap. nut.

hispida, W. (false sensitive plant. y-r. Ju. ☉.) stem erect; stem and petioles tubercle-hispid: leaves in many pairs: leafets linear, obtuse; stipules membranaceous, half arrow-form; racemes simple, few-flowered: loments hispid. Wet. 30 i. *S.* Y. P.

Southern.

viscid'ula, (y. ♃.) stem prostrate, slender, viscid-hairy: leafets 7 or 9, obovate: peduncles generally 2-flowered: loment hairy; joints deeply notched. Sandy. 3 f.

glaber'rima, Poir, glabrous: stem erect, terete: leafets linear: 30—35 pair: peduncles few flowered: legumes glabrous, punctate; 10 to 12 jointed, straight or roundish. Carolina.

7—1. AE'SCULUS. 66. Hippo. ton. art. feb. *gan.*

glabra, (little buck-eye. W. y. w. M. ♄.) leaves in fives, glabrous: corol 4-petalled, spreading; claws as long as the calyx: stamens longer than the corol: fruit spinose. 30 f. *S.* Lexington. Dr. Short. Mch.

Exotic.

hippocas'tanum, (horse-chesnut. r. y. w. J. ♄.) fruit prickly: corol 5-petalled: leafets 7, wedge-obovate, acute, toothed. Flowers speckled.

Adiantum. Gr. *a* not and *diaino* to moisten, from water sliding off easily.

Adonis. From Adonis the favorite of Venus, who was reported to have been changed into a flower.

Adoxa. Gr. *a* not and *doxa* glory, from its diminutive appearance.

Aegilops. Gr. *digos*, goat and *ops* appearance, from its roughness.

Aeschynomene. Gr. *aischanomai* to be bashful, on account of its sensibility.

Aesculus. Lat. *esca* food; a term anciently applied to a different fruit tree.

S. G. PA'VIA.

Southern.

macrosta'chya, (W. w. Ap. ♄,) stamens much longer than the 4-petalled corol: raceme very long: leafets 5. By rivers in Georgia.

rubra, (b-r. ♄.) stamens shorter than the 4-petalled corol: leafets 5, oblong-oval, acute at both ends; petioles and leafets glabrous, with the axils of the nerves hairy beneath.

hybrida, (w-r. ♄.) stamens shorter than the 3-petalled corol: petals glabrous: leafets 5, oblong-oval, acuminate at both ends, pubescent. Georgia.

flava, (w-y. ♄.) stamens shorter than the 4-petalled corol: petioles hairy, flattish above: leafets 5 to 7, oblong-oval, acute at both ends: the under side, and the nerves on the upper side, hairy. Virginia. Kentucky. Very large tree. Dr. Short.

dis'color, Ph. (W. w. y. r. M. ♄.) leaves in five divisions, acuminate at each end, downy beneath, unequally serrulate: claws of the petals as long as the calyx: fruit not awned. 4 f.

californica, N. (w. ♄.) stamens longer than the corol; petals 4 to 5: panicles short and dense; leaves in 5 divisions, divisions ovate-lanceolate or elliptical-oblong, acuminate, sub-cordate or rounded at the base, serrulate, glabrous, paler and somewhat glaucous beneath. California.

5—2. AETHU'SA. 60. Umbel. ton. nar. if nau. poi.

Southern.

divaricata, (fool's parsley, E. w. ☉.) stem erect, slender: leaves biternate: segments narrow-linear: umbels terminal, without involucres; partial umbels 3 to 5-flowered. Fruit hispid.

lep'tophyl'la, (W. r. w. ☉.) leaves biternate, gashed; margin of the acute segments entire: umbel 3-parted, sessile; partial umbels naked, few-flowered. 1 f.

pinna'ta, N. (1) (W.) leaves cut pinnate: segments distant, in few pairs, linear, entire, terminal one very long: fruit oval-oblong. Arkansas.

cynapium, (E.) leaves all uniformly pinnate: leafets pinnatifid, shining.

Afzelia, SEYMERIA.

Agathyrus, SONCHUS.

16—10. AGATI. Legu. ant. aper. nut.

grandiflora. Delv. (♄) leaves abruptly pinnate, with numerous leafets: stipules lanceolate, caducous: racemes axillary, 2 to 4-flowered, flowers very large; legumes pendulous, a foot or more long. Southern Florida. Bit. ton.

6—1. AGA'VE. 15. Brom. ref. cath.

virginica, (agave. W. y-g. S. ♃.) stemless: leaves with cartilaginous serratures; scape very simple. S. P. K.

17—1. AGER'ATUM. 53. Helian. sec- stim.

mexicanum, (b. J. ☉.) hispid: leaves cordate, ovate, crenate, rugose: corymb compound: chaffs of the egret lanceolate, awned. Cultivated. From Mexico.

11—2. AGRIMO'NIA. 92. Rosa. ton. ast. ref. feb. gas. ves.

eupato'ria, (agrimony. O. y. Ju. ♃.) cauline leaves interruptedly pinnate, the terminal leafet petioled: leafets obovate, gash-toothed, almost glabrous: flowers sub-sessile: petals rarely twice as long as the calyx: fruit hispid. 2 f. S. Mch.

Pavia. Lat. peacock, from its ocellate feathers.
Aethusa. Gr. *aithousa*, beggarly, from its habit and appearance.
Agave. Gr. *agavos*, admirable, from its beautiful appearance.
Ageratum. Gr. *a*, without, *geras*, old age, as it never changes color.
Agrimonia. Gr. *agros* a field and *monos* alone, from its being the chief of wild herbs, in the opinion of ancient physicians.

(1) Cynosciadium. Dc.

parviflo'ra, A. (dotted agrimony, W. y. Ju. ♃.) cauline leaves pinnate: leafets mostly lanceolate, serrate; terminal ones sessile; petals once and a half the length of the calyx. P. Y. P.
striata, (W. ♃.) spikes wand-like: fruit reflexed, turbinate, furrow-striate: at the apex appearing as if crowned, hispid. Canada.

Southern.

suaveolens, (W. y. Ju. ♃.) stem very hispid: leaves interruptedly pinnate; leafets numerous, narrow, lanceolate, acutely toothed, scabrous above, and pubescent beneath: fruit turbinate, smooth at the base. 5 f. Wet. St. Louis.

10—5. A'GROSTEM'MA. 82. Cary. em. ton.

githago, (1) (cockle, O. r. J. ☉.) hirsute: calyx longer than the corol: petals entire. *S.* Mch.

Exotic.

corona'ria, (rose campion. Au. ♂.) tomentose: leaves lance-ovate: petals emarginate.

3—2. AGROS'TIS. 10. Gram. far. ton. fod.

stricta, W. (bent grass. E. J. ♃.) panicle elongated, strait: glumes equal: paleas smaller than the glumes, unequal, with an awn at the base of the outer one longer than the flower. Y. N.
vulga'ris, S. (red-top. O. J. ♃.) panicle with smoothish branches, spreading in maturity: outer palea 3-nerved: stipule short, truncate. 18 i. Mch.
alba, (white-top. bonnet grass, O. J. ♃.) panicle with hispid, spreading, lax-branches: outer palea 5-nerved: stipule oblong. 15 i. Var. *decumbens*, (florin grass,) stem decumbent. This variety is considered as a distinct species by some, and called *stolonifera*. *S.* Mch.
lateriflo'ra, Mx. (W. Au. ♃.) culm erect, branched above, sending off shoots at the base: panicle lateral and terminal, dense: glumes acuminate: paleas longer than the glumes, equal, hairy at the base, awnless. Root creeping. Leaves broad, with scabrous margins and compressed sheaths. 2 f.—*mexicana*, perhaps a synonym, is too vague in its application to be retained. Var. *filiformis*, has a very slender panicle, and the paleas nearly equalling the glume—sometimes the culm is sub-decumbent. Swamps. *S.* Y. P. O. N. Mch.
sobolif'era, M. (Au. ♃.) stems sending off shoots, and sometimes decumbent, at the base; but mostly erect, branched: panicle contracted, filiform, simple; branches compressed: paleas longer than the equal glumes, hairy at the base, valves equal, awnless, mucronate. Resembles Var. *filiformis* of the lateriflora. Woods. P. Y. N.
tenuiflo'ra, W. (W. Ju. ♃.) culm almost simple, hairy at the joints; branches, when present, close-pressed: stipules obsolete: panicle contracted, with filiform branches: paleas considerably longer than the glumes; the lower valve with an awn twice as long as the flower. 3 f. Woods. *S.* P. N. Mch.
sylvatica, T. (A. ♃.) culm erect, much branched, diffuse, smooth (glabrous?) stipule lacerated: panicle with filiform branches: paleas longer than the glumes, with awns thrice as long as the flower. The diffusa. M. 3 f.
compressa, T. (S. ♃.) whole plant glabrous: culm erect, compressed, simple: panicle oblong, sub-contracted, with capillary branches: glumes equal, shorter than the paleas, acute: paleas sub-obtuse, smooth (glabrous?) at the base. Stem sending off shoots at the base. 18 i. Swamps in sandy plains. Y.
sero'tina, T. (S. ♃.) culm filiform, much compressed: leaves narrow, keeled, erect: panicle attenuated; branches capillary, erect, with alternating branchlets: glumes unequal, half as long as the awnless paleas. 18 i. Swamps in sandy plains.
juncea, Mx. (Oc. ♃.) leaves strait, erect, setaceous, convolute: panicle long-pyramidal, whorled: flowers awnless; glumes half as long as the paleas. The indica of M. 2 f. *S.* P. Y.
virginica, (S. ♃?) culms sub-cespistose, numerous, procumbent at the base and assurgent above: leaves dichotomous, involute, rigid: panicles lateral and terminal,

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Agrostemma. Gr. *agros* a field, and *stemma* a garland, from its beauty.
Agrostis. Gr. *agros* a field, it being eminently an occupant of fields.
(1) Lychnis. Dc.

spike-form—lateral ones concealed: glumes equal, and about equalling the paleas. No stipules: stamens minute. Has been mistaken for *pungens*. Sandy. *S.* M.

longifolia, T. (♃.) panicle contracted, spiked, generally concealed: paleas much longer than the glumes, sub-equal, glabrous, without spots or awns: leaves filiform, very long, recurved at the tips. Torrey introduces this species to conjoin the supposed two species *involuta* and *aspera*. 3 f. Sandy. N.

clandes'tina, Sl. (W. S. ♃.) panicle spiked, partly concealed: paleas unequal, much longer than the glumes, hairy and spotted, slightly awned: leaves very long, rigid: stipule bearded. 2 f. Sandy. *S.* P. N. T.

spi'ca-ven'ti, W. (bent-grass. J. ☉.) panicles spreading: awn of the outer palea straight, stiffly erect, very long. P.

canina, W. (brown bent-grass. Ju. ♃.) culm prostrate, sub-ramose: glumes elongated: paleas with recurved awns on their backs. Wet. These two last species, Pursh says, were introduced.

cryptandria, T. & J. (W.) panicle pyramidal, with spreading, sub-alternate branches, hairy at the axils: flowers sub-racemed, unarmed: lower glumes very short: upper one as long as the nearly equal paleas: sheaths bearded at the throat. 3 f. Very abundant at Buffalo. Aikin.

Southern.

arachnoides, E. (Ap. ♃.) stem erect: panicle long, slender: glumes scarcely longer than the paleas; the outer palea with a long weak spiderweb-like awn on the back. 6 i.

trichopodes, E. (F. S.) panicle long, diffuse; capillary: paleas equal: the outer one with a short awn: leaves linear, flat. 3 f. Stipules long, membranaceous.

dispar, Mx. (W.) erect, large: panicle loose, somewhat in a whorled pyramid, many-flowered: glumes unawned, with the outer valve largest, and one of the inner very small.

pauciflora, Ph. (Ju. ♃.) panicle with filiform, 1-flowered branches: paleas awned, twice as long as the unequal glumes, hirsute: sheaths villose. 18 i.

airoides, T. & J. (W.) panicle pyramidal, with branches somewhat in pairs, spreading; naked at the axils: flowers solitary, unarmed: glumes unequal, mostly shorter than the nearly equal paleas: sheaths bearded at the throat.

caespito'sa, T. & J. (W.) caespitose: culm branched, somewhat incurved: leaves involute, sub-dichotomous, pungent: panicle contracted: flowers awned. 4 i.

brevifolia, N, (W.) leaves much shorter than the solid, compressed, cespitose culms: panicle with alternate, close-pressed racemes: glumes equal, about half as long as the paleas. 1 f.

3—2. AI'RA. 10. Gram. far. ton. fod.

flexuosa, (hair-grass. O. J. ♃.) panicle spreading, trichotomous: branches flexuose: glumes a little shorter than the florets, and about the length of the awn: leaves setaceous: culm nearly naked. 20 i. *S.*

caespitosa, (J. ♃.) panicle diffuse: florets about the length of the glumes: awn short, straight: leaves flat. Wet. 18. i. P. W. Mch.

aristulata, T. (Au. ♃.) panicle capillary, spreading: branches whorled and flexuose: glumes 2-flowered, shorter than the florets: superior floret pedicelled; outer palea truncate, laciniate, with an awn a little below the middle, scarcely exsert. 3 f. Onondaga lake. *S.*

pumila, Ph. (J. ♃.) panicle small, fastigiate, few-flowered: pedicels short: florets awnless, obtuse, twice as long as the glumes: valves with membranaceous margins: leaves flat, smooth: culm erect, scarcely longer than the leaves. 1 i. In close tufts. P.

Southern.

capillacea, Lk. panicle capillary, very large, diffuse: florets not awned, longer than the glumes; one on a footstalk. 8 i.

obtusata, Mx. (March. ♃.) leaves flat: panicle contracted: flowers smooth, obtuse: inner glume obliquely truncate. 2 f. P. W. Y.

aquatica, W. (water hair grass. M. ♃.) panicles spreading, half-whorled: flowers beardless, obtuse, smooth, longer than the glumes: leaves flat: culm creeping. Water.

Aira. Gr. deadly instrument; but no poisonous plant is now included in the genus, if ever.

13—1. A'JUGA. 42. Lab. ton. sto.

chamæpi'thys, W. (bugle. y. J. ⊙.) leaves 3-cleft: flowers axillary, solitary, shorter than the leaves: stem diffused.

4—1. ALCHEMIL'LA. 92. Caly. aro. ton.

alpina, (lady's mantle. A. w. ♃.) leaves digitate, serrate at the extremities, white satiny beneath. Mts. N. Hampshire.

6—1. ALE'TRIS. 16. Asph. sti. ton. ex. sto. *rhu.*

farinosa, (false aloe, unicorn root, false star grass. W. y. ♃.) stemless: leaves linear-lanceolate, withering at the tips: scape with alternate pedicelled, mostly farinaceous flowers. This plant grows plentifully in Brimfield, (Mass.) Here the inhabitants use the root as a tonic, which at the same time serves as a moderate cathartic. The root is intensely bitter. Meadows. *S.* C. D. N. K. Michigan.

aurea, Mx. (yellow star-root. y. Ju. ♃.) flowers sub-sessile, short-tubular, sub-campanulate; fertile corols rugose, very scabrous; leaves lance-ensiform, acute. *S.* P. Y.

6—13. ALIS'MA. 13. Alizm. stim. acr. *hyd.*

planta'go, (1) (water plantain, mad dog weed. O. w. Ju. ♃.) leaves ovate or heart-ovate, obtuse or abruptly acuminate, 5 to 9-nerved; fruit 3-cornered: flowers whorled. Var. *parviflora*, flowers smaller: leaves about 5 or 7-nerved. Difference scarcely sufficient for a variety. Wet and water. *S.* Michigan.

natans, W. (L. Ju. ♃.) leaves ovate, obtuse: peduncles solitary. Water or wet.

4—1. ALLIO'NIA. 32. Nycta. cat.

Southern.

ovata, Ph. (W. Au. ⊙.) stem diffused, dichotomous: leaves ovate, a little scabrous or naked: flowers terminal, fascicle-racemed, involucre half 5-cleft; divisions round, acutish, net-veined.

multiflora, P. & J. (W.) pulverulently pubescent: leaves broad-cordate, acute, very entire: involucre 7 or 8-flowered, 5-cleft: flowers sub-pentandrous: stamens scarcely exsert. Flowers very large. Near Rocky Mt.

6—1. ALLIUM. 16. Asph. stim. exp. abs.

canaden'se, (meadow garlic. W. M. ♃.) scape naked, terete; leaves linear: head bulbiferous. 18 i. *S.* P. O. T. W. N. K. Michigan.

vineale, (field-garlic. W. p. J. ♃.) cauline leaves rounded, fistulous: umbels bulbiferous: stamens alternately tricuspidate. 8 i. T. Y. P. K.

triflorum, (mountain leak. W. A. M. ♃.) scape naked, terete, shorter than the leaves: leaves lanceolate, nerved: umbels few-flowered.

cer'nuum, Roth. (W. r. Ju. ♃.) scape naked, quadrangular, umbelliferous; leaves linear, nearly flat: umbels cernuous: stamens simple: germ 6-toothed. 18 i. *S.* M. H. K. Michigan.

tricoccum, A. (three-seed leek. W. A. w. J. ♃.) scape naked, nearly terete: leaves lanceolate-oblong, flat, smooth: umbel globose: seeds solitary. P. W. N. K. Michigan.

Exotic.

cepa, (garden onion, Ju. ♃.) scape naked, swelling towards the base, longer than the terete leaves.

fistulosum, (welch onion. ♃.) scape naked, equalling the terete ventricose leaves.

Ajuga. Gr. *a* privative and *zugon* a yoke, not paired.
Alchemilla. So called because it was celebrated by the alchemists.
Aletris. Gr. *aeliar*, meal; its corol being lined with meal.
Alisma. From the Celtic, *alis*, water: its place of residence.
Allionia. In honor of Allioni, an Italian botanist.
Allium. Gr. *aleo* to avoid on account of its disagreeable odor.

(1) trivialis Ph.

schœnopra'sum, (cives. Ju. ♃.) scape naked, equalling the leaves which are terete-filiform.

olera'ceum, (striped onion. ♃.) stem terete-leaved, bulb-bearing: leaves scabrous, semi-terete, sulcate beneath: stamens simple.

ascalo'nicum, (shallot. Ju. ♃.) scape naked, terete: leaves subulate: umbels globose: stamens tricuspidate.

porrum, (leek. Ju. ♃.) stem flat-leaved, umbelliferous: stamens tricuspidate: leaves sheathing at the base.

sativum, (garlic. Ju. ♃.) stem flat-leaved, bulb-bearing: bulb compound; stamens tri-cuspidate.

fragrans, (false snow-drop. w. M. ♃.) scape terete: leaves linear, keeled, obtuse, contorted: peduncles naked; stamens flat.

senescens, (false narcissus, ♃.) scape naked, 2-edged: leaves linear, convex under side, smooth: umbel round: stamens subulate.

Southern.

striatum, Ph. (W. w. March. ♃.) scape naked, slightly 3-angled: leaves linear, concave, streaked on the back: corol expanding: stamens simple, included.

mutabile, Mx. (g-r. M. ♃.) scape terete: leaves linear, flat; umbel many-flowered: stamens simple, included: seeds solitary. 2 f.

stellatum, leaf linear, channelled, keeled under side: flowers in fastigiate umbels, numerous: spathe acute: the 3 outer petals shorter, sub-obtuse: capsule turbinate 3-sided: cells 2-seeded.

angulosum, (W. ♃.) scape naked, 2-edged: leaves linear, channelled, sub-angular beneath: umbel fastigiate. Damp.

19—4. Al'nus; W. (1) 99. Betu. ton. gar.

incana, W. (♄.) leaves oblong, acute, pubescent beneath: axils of the veins naked: stipules lanceolate. P.

undulata, W. (2) (waved alder. Muh. says it grows in New-England. ♄.) leaves oblong, acute, rounded at the base: petioles and veins hairy beneath: axils of the veins naked: stipules ovate-oblong.

serrulata, (alder, O. r-g. Ap. ♄.) leaves obovate, acuminate: veins and their axils hairy beneath, stipules oval, obtuse. 9 f. *S.* Mich.

glutinosa, (Ap. ♄.) leaves round-wedge form, obtuse, glutinous: axils of the veins downy. D. N.

glauca, Mx. (A. March. ♄.) leaves oblong, acute, doubly serrate, glaucous beneath; axils of the veins naked: stipules naked. Called black alder.

3—2. Alopecu'rus. 10. Gram. far. ton. fod.

pratensis, (meadow grass, foxtail, W. J. ♃.) culm erect, smooth: spike cylindric: paleas as long as the glumes. T. P. Y. N.

geniculatus, M. (3) (floating foxtail. W. Ju. ♃.) culm ascending, geniculate; spike cylindrical: glumes a little connate at the base, hairy on the back and margin: paleas truncate: styles free. 18 i. *S.* Wms. C. N. O. T. Y. Mich.

Alsine. STELLARIA.

15—12. Althæ'a. 74. Mal. muc. cat.

officina'lis, (marsh-mallows. r-y. Ju. ♃.) leaves downy, oblong-ovate: obsoletely 3-lobed, toothed. 6 f. P. B. Cultivated.

Exotic.

ro'sea, (hollyhock. ♂.) stem erect: leaves rough, heart-form, 5 to 7-angled; crenate.

ficifolia, (fig-hollyhock. ♂.) leaves 7-lobed, sub-palmate, obtuse.

Alnus. Derived from the Celtic *al* near, *lan* river side—Lat. alnus.

Alopecurus. Gr. *alopex* a fox and *oura* a tail.

Althæa. Gr. *altha*, to cure, from its many excellent properties.

(1) Betula, L. (2) crispa. (3) aristulatus, Mx.

14—1. ALYS'SUM. 63. Cruc. ant. nut.

hyperbo'reum, W. (W.) stem herbaceous: leaves hoary, toothed; stamens 4, 2-forked. Canada.

Exotic.

saxatile, (basket of gold. y. ♄.) stem woody, panicled: leaves lanceolate, very soft, repand.

19—5. AMARAN'THUS 30. Amaran. ast.

albus, W. (white coxcomb, W. g-w. Ju. ☉.) glomerules axillary, triandrous: leaves obovate, retuse; stem 4-cornered, simple. Common garden weed. 18 i. Y. P. C.
græ'cizans, W. (W. g. Au. ☉.) glomerules axillary, triandrous: flowers 3-cleft: leaves obovate, emarginate: stem teretish, branching. P. T.
olera'ceus, (pot amaranth. Ju. ☉.) glomerules axillary, branching: leaves wrinkled, oblong, very obtuse, emarginate. Sometimes the flowers are pentandrous. 18 i-2 f. C. W. Y. P. N.
hy'bridus, W. (W. Ju. ☉.) racemes pentandrous, doubly compound, heaped together, erect: leaves ovate-lanceolate. P. C. Y. B. N. Mich.
panicula'tus, W. (Ju. ☉.) racemes pentandrous, triply-compound: branches spreading, pubescent: leaves ovate, lanceolate. P.
retroflex'us, W. (rough amaranth. O. Au. ☉.) racemes pentandrous, triply-compound, compact, erect: branches pubesent: leaves ovate, undulate.
hypochondria'cus, W. (spleen amaranth. Au. ☉.) racemes pentandrous, compound, compact, erect: leaves oblong-lanceolate, mucronate. Leaves red. (False prince's-feather.) P. Cultivated.
spinosus, W. (Au. ☉.) racemes pentandrous, terminal, compound: axils spinose. P.
pu'milus, R. (dwarf amaranth. g.) glomerules axillary: flowers pentandrous: calyx 5-sepalled, concave: leaves ovate, obtuse, smooth and fleshy, sometimes retuse. Scarcely twelve inches high. Y. C.
sanguin'eus, (g. Ju. ☉.) flowers pentandrous, in decompound, erect, clustered racemes: leaves ovate-lanceolate. C.
blitum, (g. Ju. ☉.) racemes triandrous, sub-spiked: flowers 3-sepalled; leaves ovate, retuse: stem spreading, or prostrate. B.

Exotic.

melanchol'icus, (love-lies-bleeding. r. ☉.) glomerules axillary, peduncled, roundish; leaves lance-ovate, colored.
tri'color, (three-colored coxcomb. Ju. ☉.) glomerules sessile: leaves lance-oblong, colored.
lividus, (lead amaranth. Ju. ☉.) glomerules triandrous, sub-spiked, roundish: leaves oval, retuse: stem erect.

6—1. AMARYL'LIS. 17. Ama. sti. poi. eme.

atamasco, (atamasco lily. w. & r. J. ♃.) spathe 2-cleft, acute: flower pedicelled: corol bell-form, sub-equal, erect: stamens declined. S. P.

Exotic.

formosis'sima, (jacobea. ♃.) spathe 1-flowered: corol ringent-like: petals declined.

19—5. AMBRO'SIA. 55. Amb. ton. sec-stim.

trifida, W. (great bitter-weed. O. g-y. Au. ☉.) bristly, rough: leaves 3-lobed, serrate; lobes oval, lanceolate, acuminate: fruit 6-spined, beneath the apex. From 5 to 8 feet high. Mich.
elatior, W. (hogweed, Roman wormwood. O. Ju. ☉.) leaves doubly pinnatifid, smoothish: petioles long, ciliated: racemes terminal, panicled: stem wand-like. 1 to 4 f. S. Mich.

Alyssum. Gr. *alusso*, to be mad, from its being supposed to cure mental maladies.
Amaranthus. *a*, not, and *maraino*, wither, from the durability of the flowers.
Amaryllis. From the nymph Amaryllis, mentioned in Virgil.
Ambrosia. *a*, primitive, and *brotos*, mortals, it being the food of the gods.

artemisifolia, W. (S. ☉.) leaves doubly-pinnatifid, hoary beneath, at the summit pinnatifid: racemes terminal in threes: branches level-topped. S. Y. P.
paniculata, W. (J. ☉.) leaves glabrous, doubly pinnatifid, pinnatifid at the summit: racemes terminal, solitary: branches level-topped. P.
heterophylla, W. (S. ☉.) cauline leaves pinnatifid, sub-toothed, petioled; on the upper branches lanceolate sessile: petioles long ciliate: racemes terminal, solitary: stem panicled. P.
bidenta'ta, Mx. (W. Ju. ☉.) very hirsute: leaves closely sessile, simple, oblong, one-toothed on each side above the spreading base: fruit 4-cornered, 4-spined below the apex.
acanthicarpa, H. ( ) very branching, hispid with rigid rough bristles: leaves bipinnatifid with linear segments: racemes terminal: fruit everywhere covered with long rigid subulate spreading spines. Columbia river.

Southern.

hispi'da, Ph. (w. ☉.) white-hispid on all parts; leaves 2-pinnatifid: divisions gashed; racemes sub-panicled, terminal. Flowers large. 1 f.
tomentosa, N. (W. ♃.) leaves 2-pinnatifid, under side white-downy: spike solitary. 18 i.

Amelanchier, ARONIA.

Amellus. ECLIPTA.

4—1. AMMANN'IA. 91. Sali. ast. vul. irr.

ramos'ior, (w-p. Au.) stem erect, thick, sub-terete: leaves lanceolate, dilated at the base; lower flowers compactly whorled. Salt meadows. 6 i. Y. C.
hu'milis, Mx. (w-r. Au. ☉. ♂.) stem procumbent at the base, branched, slender, quadrangular: leaves lanceolate, slender at the base: flowers solitary. Stem red. 6 i. P.

Ammi. SISON. DISCOPLEURA.

17—1. AMMOBIUM. 53. Cicho. sec-stim.

alatum, (w. ♃.) stem winged: leaves oblong, undulate, decurrent. Cultivated. From N. Holland.

Ammyrsine. LEIOPHYLLUM.

16—10. AMOR'PHA. 93. Leg. nut. antis. aper.

fruticosa, (Var. *emarginata*, T.) (W. Ju. ♄.) smooth sub-arborescent: leaves petioled, emarginate: spikes aggregated, long: calyx hoary, pedicelled, one of the teeth acuminate, the rest obtuse: legume few-seeded. 6 f. S. P. K.
glabra, (♄.) somewhat woody, glabrous: leaves oval-oblong, lower ones distant from the stem: calyx glabrous, with four teeth obtuse, and one acuminate, banner glandular outside: legume few-seeded.
canescens, N. (lead plant. W. b. ♄?) somewhat woody, white-villose: leafets near each other, sub-sessile, oval-ovate, mucronate: spikes aggregated: flowers sub-sessile: teeth of the calyx equal; ovate, acute. 18 i. Galena, Mich.

Southern.

pubes'cens, Ph. (w. J. ♄?) small shrubby; leaves on very short petioles, obtuse at each end, hairy: spikes long, panicled, hairy: calyx sub-sessile with acuminate teeth. 3 f.
nana, N. (W. p-b. M. ♄.) leafets sub-ovate or oval, mucronate and smooth: spikes solitary and aggregated: flowers pedicelled: teeth of the calyx setaceously acuminate: legume 1-seeded. On grassy woodless hills. 9 i.
caroliniana, (broom, ♄. Ju. b.) nearly glabrous; leafets elliptical or oblong, petiolate dotted, the lowest pair approximate to the stem: flowers on very short pedicels:

Ammannia. in honor of John Ammann, a Russian botanist.
Ammobium. Gr. *ammos*, sand, *bio*, to live—it growing naturally in sand.
Amorpha, Gr. *a*, priv. and *morphe*, shape, from the absence of wings and keel of the corol.

calyx villose on the margin; teeth short: the two upper obtuse, the three lower longer and commonly equal, acuminate, or subulate aristate. N. Carolina. 4 to 5 f.

californica, N. (♄. May.) pubescent, leafets elliptical oblong, obtuse, rather distant, conspicuously dotted with brownish glands beneath; petioles furnished with minute glandular scales, stipules broad, and membranaceous; spike short and solitary: teeth of the villose calyx all acute and short; bracts lanceolate, acuminate. California. A shrub.

lævigata, N. (♄. b.) glabrous and very smooth; leaves large, leafets distant, elliptical-oblong, attenuated below; the common petioles short; stipules minute: bracts rather long and subulate, caducous: calyx very glandular, the teeth acute; the three lower ones longer and acuminate; banner about the length the of calyx: legume 1-seeded. A large shrub. Arkansas.

paniculata, T. (♄. p.) whole plant canescently-tomentose, except the upper surface of the leaves, which are nearly glabrous and shining; leaves on distinct petioles, leafets 7 to 8 pairs, elliptical-oblong, large, petiolate, very obtuse, and often emarginate at each end, dotted and prominently veined beneath, spikes numerous, virgate in a large, nearly naked, exserted branching panicle; flowers sub-sessile; teeth of the glandular and tomentose calyx unequal; the two upper triangle-ovate, and shorter, the three lower triangular-subulate: banner one-third longer than the calyx, truncate. Arkansas, Texas.

5—1. AMPELOP'SIS. Mx. 72. Vit. ton. acr.

quinquefolia, Mx. (1) (false grape, creeper. O. w. Ju. ♄.) leaves in fives, toothed: stem rooting, climbing. *S.* Mich.

Amphicarpa. PHASEOLUS.

18—5. AMSO'NIA. 47. Ascl. acr. stim. em. sud.

Southern.

latifolia, Ph. (W. b. Ap. ♃.) stem glabrous: leaves lance-oval, upper ones acuminate, pubescent on the under surface of the nerves. 2 f.

salicifolia, Ph. (b. M.) Stem smooth: leaves lance-linear, acute at each end, very glabrous.

angustifolia, Mx. (b. Ap.) stem hairy: leaves narrow-linear, numerous, erect, hairy. 2 f.

11—1. AMYG'DALUS. 92. Amyg. acr. ton. poi.

Exotic.

persica, (peach. r. M. ♄.) serratures of the leaves all acute, flowers sessile, solitary. 15 f. Putamen with prusic acid.

nana, (flowering almond. ♄.) leaves ovate, tapering to the base, sharply serrate. 3 f

8—1. AMY'RIS. 94. Amy. cath. ast. aro.

Southern.

floridana, (w. ♄.) leafets 1-paired, with a sessile terminal leafet, ovate, entire, obtuse, glabrous: flowers sub-panicled: berry sub-globose; tapering at the base. In West Florida.

Anabasis, SALSOLA.

5—1. ANAGAL'LIS. 35. Prim. acr. ton. *epi.*

arvensis, (red chickweed, scarlet pimpernell, r. J. ☉.) stem spreading, naked, procumbent: petals entire, flat, with hairs at the margin. *S.* C. P. T. Y. B.

Ampelopsis. Gr. *ampelos*, the vine, and *ops*, appearance, from its resembling the grapevine.

Amphicarpa Gr. *amphi*, both, and *karpos*, fruit, it producing fruit above and below ground.

Amsonia. Named by Walter. Probably in honor of a friend.

Amygdalus. Gr. *amugdalos*, the almond tree, which belongs to this genus.

Anagallis. Gr. *anagelus*, to laugh, from its supposed exhiliarating qualities.

(1) Hedera quinquefolia, L. Cissus hederacea, P. Vitis quin. Lk.

Anantherix. PODOSTIGMA.

Anatherum. ANDROPOGON.

5—1. ANCHU'SA. 43. Bora. emol. ast.

Exotic.

officinalis, (buglos. y. ♃.) leaves lanceolate: spikes imbricate, one-sided: bracts ovate.

Andrewsia. CENTAURELLA.

5—1. AN'DROCE'RA. N. 38. Solan. acr. poi.

Southern.

lobata, N. (W. J. ☉.) prickly, hirsute: leaves in pairs, lobe-pinnatifid: segments obtuse, obsoletely crenate, undulated: racemes lateral, many-flowered. The Solanum heterandrum of Ph.

10—1. ANDROM'EDA. 51. Eric. ast. diu.

hypnoides, W. (moss-bush. Au. ♄.) leaves imbricate subulate, glabrous: peduncles solitary, terminal, 1-flowered; corol nodding, globose-bell-form. Small, creeping. White Hills.

mariana, W. (W. J. ♄.) leaves oval, entire, sub-acute at both ends, glabrous, leathery, paler beneath: flower-bearing branches almost leafless: peduncles fascicled: corol ovate-cylindric: calyx leafy: anthers beardless: capsule ovate, and resembling the form of a pine-apple. One variety has narrow lanceolate leaves. *S.* P. Y.

polifolia, Mx. (W. wild rosemary. A. r-w. M. ♄.) leaves linear-lanceolate, convex, revolute, white-glaucous beneath and hoary-glaucous above: flowers aggregate, terminal: corol sub-globose: anthers bearded towards the top. One foot high. Wet. T. D. B. N. Mich.

arborea, W. (sorrel tree. W. w. Jn. ♄.) branches terete: leaves oblong, acuminate, mucronate-serrate, glabrous: panicles terminal, many spiked: corol ovate-cylindric, pubescent: anthers linear, beardless. About 40 feet high, with acid leaves. *S.* P. Charleston, S. C.

paniculata, M. (1) (white bush, pepper bush. O. w. J. ♄.) pubescent: leaves obovate-lanceolate, acute, sub-entire: flower bearing branches terminal panicled, nakedish: glomerules peduncled: corol sub-globular, pubescent: anthers obtuse, beardless. A shrub running into several varieties—flowers small. *S.*

racemosa, W. (W. w. J. ♄.) leaves oval-lanceolate, acute, serrulate, membranaceous, glabrous: spikes terminal, one-way, elongated, simple or branched: bracts linear, acute: corol cylindric: calyx acute, with bracts at the base: anthers doubly 4-bearded at the apex. A middling sized shrub, odoriferous. Wet. *S.* P. Y. K.

calyculata, W. (leather leaf. O. w. M. ♄.) leaves lanceolate-oblong, obsoletely serrulate, sub-revolute, with scaly dots, rust-colored beneath: racemes terminal, leafy, turned one way: pedicels short solitary, axillary: calyx acute, 2-bracted at the base: bracts broad-ovate, acuminate: corol oblong-cylindric. Wet. 2 f. *S.* T. Mich.

Southern.

augustifolia, (E. Ap.) leaves linear-lanceolate, acute, with scaly dots: bracts 2 and minute, acute: racemes terminal, leafy, secund: peduncles solitary, axillary.

nitida. W. (E. w. r. March. ♄.) very glabrous: branches flexuous, 3-angled: leaves oval, acuminate, entire, 3-nerved: peduncles clustered, 1-flowered, axillary: corol cylindrical; anthers at the base 2-horned. 5 f. Charleston, S. C.

rhomboidalis, P. (E.) flower-bearing branches 3-angled: leaves rhomboid and lanceolate, entire, glabrous, terminated by a gland: peduncles clustered, axillary.

axillaris, (E. w. March. ♄.) leaves oval-lanceolate, acuminate, coriaceous, lucid, with spiny serratures: racemes axillary, closely flowered: corol oblong-ovate: anthers at the summit, 2-horned. 3. f.

Anchusa. Gr. *agchousa*, to strangle, because as some say it strangles serpents.

Androcera. Gr. *aner*, *(andros.)* stamen, and *keros*, a horn, in allusion to the coniform appearance of one of the anthers.

Andromeda. From *Andromeda* the daughter of Cepheus, who was, like this plant, confined in a marsh.

(1) Lyonia paniculata, N. ligustrinae, L.

acuminata, Ph. (E. w. Ap. ♄.) very glabrous: leaves lance-ovate, tapering towards the apex and acuminate, nearly entire, coriaceous, reticulate: racemes axillary: corol cylindrical: anthers unawned, gibbous near the base. 11 f.

floribunda, Ph. (E. w. M.) very glabrous: leaves oblong ovate, acute, slightly serrulate, coriaceous: racemes secund, axillary, and forming terminal panicles.

ferruginea, (w. J. ♄.) shrubby: leaves coriaceous, distant on long petioles, obovate, generally obtuse, entire, with dust-like scales, and veiny beneath: pedicels aggregate, 1-flowered, axillary: corol globose: anthers unawned. Sand. 4 f. New Orleans.

rigida, Ph. (J. ♄.) leaves crowded, on short petioles, lanceolate, acute at both ends, scaly and tomentose beneath, without veins: pedicels aggregate, axillary, 1-flowered: corol nearly globose: anthers unawned. 18 f.

frondosa, M. (w. M. ♄.) pubescent: leaves obovate-lanceolate, acute, serrulate, tomentose; flower-bearing branches paniculate, leafy:. corol globose: anthers awned. 4 f.

speciosa, (w. ♄.) leaves oval-obtuse, mucronate, crenate, reticulate: racemes naked, aggregate: corol campanulate: anthers 4-awned. 4 f.

tetragona, (W. w. M. ♄.) leaves imbricate, keeled, naked at the margin: peduncles axillary, solitary, filiform, 1-flowered: corol nodding, bell-form.

stelleriana, H. ( ) stem filiform, procumbent; leaves 4-6: rays linear, very spreading, obtuse: keel flat above with the back obtuse: peduncle short terminal, sub-solitary curved: calyx 5-sepalled; corol broad, bell-form; style ovate-acuminate; anthers awned, two very long. R.

lycopodioides, H. ( ) stem filiform, diffused, vaguely branched; leaves 4-ways, closely imbricate, ovate, short, thick, obtusely keeled; peduncles somewhat in pairs, axillary: corol campanulate. R.

cupressina, H. ( ) stem sub-erect, very branching sub-pinnately: leaves 4-ways, close pressed, imbricate, broad lanceolate, keeled: peduncles lateral, solitary.

3—2. ANDROPO'GON. ' 10. Gram. far. ton.

scoparius, Mx. (broom-grass. O. Au. ♃.) spikes simple, lateral and terminal, pedunculate, in pairs: rachis hairy: abortive floret neuter: valves awned. *purpurascens*. W. S. Mich.

virginicus, (bent grass. W. ♃.) culm compressed: superior leaves and sheaths smooth: spikes short, 2 or 3 from each sheath, partly concealed at the base: rachis sub-terete: abortive flower a mere pedicel without valves: perfect flowers monandrous. P. Y. H. M. C. Mich.

furcatus, W. (forked spike. O. Au. ♃.) spikes digitate, generally by fours: abortive flower staminiferous, awnless, resembling the perfect one, the awn of which is sub-contorted. *S.* Mich.

macrourus, Mx. (indian-grass. S. ♃.) spikes fasciculate, in dense lateral and terminal fastigiate panicles: flowers monandrous: awn straight: abortive floret without valves. *S.* P. Y. B. N.

nutans, (1) (beard-grass. O. Au. ♃.) panicle oblong, branched; nodding spickelets by pairs: glumes hairy, rufescent: awn contorted. Mich.

Southern.

secundus, E. (S. ♃.) panicle sparingly branched, erect, secund: peduncles 3-flowered; staminate flower subulate, villous: the perfect sessile one, with one valve very villous.

ciliatus, E. (W. S. ♃.) panicle oblong, terminal: branches glabrous: flowers in pairs: glumes hairy: paleas ciliate, with a contorted awn. 3 f. *nutans?* P.

melanocarpus, (S.) spikes clustered: flowers solitary, with an involucre: awn very long. 3 f.

ternarius, Mx. (A.) branches remotely alternate, 3-spiked: spikes conjugate; hair of the involucre shorter than the glume; flowers triandrous.

argenteus, E. (Oc. ♃.) panicle long, slender; branches solitary, and in pairs: spikes conjugate, longer than the sheath, covered with white silvery hairs.

Andropogon. Gr. *aner (andros,)* a man, and *pogon*, a beard, from a fancied resemblance in the little tuft of hairs upon the flower, to the beard of a man.

(1) avenaceus, Mx.

vaginatus, E. (Oc. ♃.) panicle slender, close pressed; spikes solitary, conjugate, shorter than the sheaths: flowers in pairs; the perfect one awned; the awn straight, scabrous.

tetrastachyus, E. (Oc.) panicle slender, erect: spikes solitary, 4-cleft: flowers in pairs; the perfect one awned; leaves hairy. 3 f.

bicornis, W. ( ) spikes conjugate, panicled; panicle bracted, corymbed, fastigiate: flowers ternate, awnless; middle one perfect, sessile; lateral one neutral, pedicelled; ciliae of the rachis very long.

glaucus, T. (W.) smooth, glaucous: culm sub-simple: joints smooth: panicle terminal, much exsert, oblong; spikes alternate, crowned: awns long, twisted: abortive floret neuter unarmed, 1-valved. 2 f.

5—1. ANDROSA′CE. 35. Primu. acr. ton.

Southern.

occidentalis, Ph. (W. ☼.) very slenderly pubescent: leaves (or involucres) oblong-spatulate, entire: perianths angled: capsule shorter than the calyx.

carinata, T. & J. (w. J. ♃.) leaves crowded, lance-ovate, acute, entire, keeled; margin ciliate: umbels few-flowered; leafets of the involucre linear-oblong: corol exceeding the ovate calyx; divisions obovate entire. James' Peak.

septentrionalis, (W. ☼.) leaves lanceolate, toothed, glabrous, shining: perianth angled, shorter than the corol.

12—12. ANEM′ONE.* 61. Ranun. acr. cau. poi. *taenia.*

virginiana, (wild-flower, thimble weed, O. g-w. Ju. ♃.) stem dichotomous: leaves in threes, ternate, upper ones opposite; leafets gash-lobate and serrate-acute: peduncles solitary, 1-flowered, elongated: carpels oblong, wooly, mucronate, in heads. 18 i. *S.* Mich.

aconitifolia, Mx. (1) (O. W. J. ♃.) stem dichotomous: radical leaves palmate; cauline leaves sessile, clasping, 3-cleft: the lower ones ternate, with the lobes acute-lanceolate, gash-serrate; peduncles solitary, 1-flowered. carpels in globose heads, naked, subulate-beaked. Flowers large. 15 i. *S.* Mich.

nemorosa, (low anemone, wood anemone. O. r-w. M. ♃.) stem 1-flowered: cauline leaves in threes, ternate: leafets wedge-form, gash-lobed, toothed, acute, corol 5-6-petalled: carpels ovate, with a short style, hooked. A variety, *quinquefolia*, has lateral leafets deeply 2-cleft. 6 i. *S.* R. Mich.

narcissiflora, W. (W. w. Ap. ♃.) flowers umbelled, involucred: radical leaves palmate many-cleft, gashed; divisions linear: involucres sessile, gashed; umbels few-flowered: pedicels longer than the involucre. Canada.

cuneifolia, Ph. (2) (w. Ap. ♃.) stem 1-flowered, involucred: leaves ternate; leafets sessile, wedge-form, truncate-crenate at the apex: involucre 3-leaved: corol 5-petalled: carpel head-globose, acuminate, wooly.

patens, W. (M. p. ♃.) soft-silky: late leaves 3-parted or 3-nerved; segments wedge-form, gash 3-cleft, lobes lance-linear. involucre linear, many-cleft: flowers erect; calyx 5 or 6-sepalled, bearded, with long awns. Rocky Mts. Upper Canada.

alpina, (W. w. ♃.) silk-villose: leaves long-petioled, biternately pinnatifid: leafets with linear acute divisions conforming to involucres: flowers erect: sepals 6, spreading, bearded with long awns. Rocky Mts.

baldensis, (W. b. ♃.) leaves glabrous, somewhat fleshy, ternate-parted, with segments 3-parted with linear obtuse divisions, short-petioled, conforming to involucres: petioles and scape villose: flower solitary: sepals 6—8 spreading obtuse, sub-pilose outside. *R.*

deltoidea, (W. w. ♃.) leaves ternate; leafets rhomboid, entire or trifid, gash serrate, acute, (leafets and involucres sessile:) sepals 5 or 6, obovate. W. of Rocky Mts.

richardsoni, Hk. (W. ♃.) sub-pilose leaves reniform, 3—5-parted; lobes subtrifid, acutely toothed: involucre-like leaves round-wedge-form, sessile, 3-cleft and toothed:

Androsace. Gr. *aner*, (*andros*,) a man, and *sakos*, a shield, so called from the large round hollowed leaf of the common Androsace.

Anemone. Gr. *anemos*, the wind, from its opening its flowers in the windy days of spring.

* Species A. *thalictroides*, is returned to the genus Thalictrum.

(1) pennsylvanica, L. (2) parviflora, Hk.

sepals 6, spreading: fruit compressed, glabrous; styles long, deflexed, hooked. Rocky Mts. Hudson Bay.

multifida, (w. r. y. ♃.) pilose leaves 3-parted; segments wedge-form, in 3-parted linear acute divisions; involucre-like leaves petioled: sepals 5 to 8, sub-coriaceous, oval, silky outside. Canada. Rocky Mts.

Exotic.

hortensia, (garden anemone.) radical leaves digitate: divisions 3-cleft; cauline ones ternate, lanceolate, connate, sub-divided: carpels wooly.

Southern.

caroliniana, W. E. (1) (W. w. March ♃.) leaves ternate: leafets notched and serrate: involucre 3-leaved, each 3-cleft: sepals 14 to 20, oval: the outer one sub-coriaceous.

walteri, Ph. (♃.) radical leaves palmate, long-petioled: scape long, erect, 1-flowered: petals 3: root tuberous.

Anemone. HEPATICA.

5—2. ANE'THUM. 60. Umb. stom. aro. con. *col.*

Exotic.

graveolens, (dill.) fruit compressed: plant annual.

foeniculum, (fennel.) fruit ovate: plant perennial.

5—2. ANGEL'ICA. 60. Umb. stom. sti. sto. root acr.

triquinata, Mx. (2) (angelica. O. w. Au. ♃.) stem terete, pubescent above: leaves ternate, very smooth: partitions quinate: leafets oblong; ovate, equally serrate: lower ones 2-lobed at the base. 4 f. *S.* Mich.

atropurpurea, (high angelica. O. g-w. J. ♃.) stem smooth, colored: leaves ternate; partitions sub-quinate: leafets ovate, acute, gash-serrate, sub-lobed; 3 terminal ones confluent: petioles very large, inflated. Wet meadows. Root purplish. This is the true aromatic angelica. 4 f. *S.* Probably synonymous with the last. Tully. Mich.

lucida, (♃.) leafets equal, ovate, gash serrate: radical leaves 3-pinnate, cauline ones 2-pinnate. 18 i. Canada. *S.*

Exotic.

archangelica, (archangel. ♂.) leaves with the odd terminal leafet lobed. N. W. Coast.

gmelini, stem glabrous terete: leaves gash-ternate, segments 3-parted with the lobes ovate, serrate, cuneate at the base: leaves of the involucels nearly equalling the flowering umbels. N. W. Coast.

12—12. ANNO'NA. 76. Ann. aro.

glabra, (Ju. r-y. ♄.) calyx large, bell-form: leaves lance-ovate, glabrous: peduncles 2-flowered, opposite to the leaves: fruit subconic, obtuse, smooth. 16 f. Evergreen tree. Carolina.

4—1. ANO'TIS. 57. Cinch. feb. ton.

Southern.

lanceolata, Dc. ( ) glabrous: stem erect, 4-cornered, corners subalated: leaves sessile lanceolate, acute: stipules lanceolate membranaceous: corymbs trichotomous terminal.

rotundifolia, Dc. (W. ♃.) stem prostrate, branching, branches 4-cornered: leaves sub-orbicular, short petioled; stipules very small; flowers axillary.

Anethum. Gr. *ano*, upward, and *theino*, to shoot from its quick growth.

Angelica. Lat. *angelica*, angelic, from the supposed virtues of its root and seeds.

Anotis. Gr. *a*, without, *notos*, vapor or humor, on account of growing on high frozen mountains.

(1) tenella, Ph. (2) Ferula canadensis. See Ferula.

17—2. ANTENNA'RIA. 55. Inula. ton. sec-sti.

A sub-genus of Gnaphalium, which see.

17—2. AN'THEMIS. 55. Helian. ton. sec-stim.

arvensis, (corn chamomile, W. w-y. J. ♂.) receptacle conic, chaff lanceolate: akenes crown-margined: leaves 2-pinnate, sub-divided; segments lance-linear: stem and peduncles pubescent; leaves somewhat distant; flowers few. Scarcely odorous. Introduced. 8 i. T. Y. O. P.

cotula, (mayweed. O. w. J. ☉.) receptacle conic, chaff bristly: akenes naked: leaves 2-pinnate, leafets subulate, 3-parted: flowers smaller than the last, more numerous, very odorous. Introduced. 10 i. *S.* Mich.

Exotic.

nobilis, (chamomile. w. Au. ♃.) leaves 2-pinnate: leafets 3-parted, linear-subulate, sub-villose: stem branching at the base. Fragrant. In 1820 I saw this plant growing wild very extensively, in cultivated fields in Pittsfield, Mass. 4 i.

Anthericum, NARTHECIUM.

Anthopogon, GYMNOPOGON.

2—2 AN'THOXAN'THUM. 10. Gram. far. ton. odor.

odoratum, (sweet vernal grass. O. M. ♃.) spike oblong-ovate: florets sub-peduncled, shorter than the awn. An American variety, *altissimum*, is larger, and of a darker green. Ives. An elegant substitute for the Leghorn grass. Dewey. 10—18 i. *S.*

13—2. AN'TIRRHI'NUM. 37. Scro. acr. ton. ant.

elatine, W. (creeping snap-dragon. y. Ju. ☉.) procumbent pilose: leaves alternate, hastate, entire: peduncles solitary, very long. P. T.

linaria, (snap-dragon, toad-flax. W. y. Ju. ♃.) erect, glabrous: leaves scattered, lanceolate-linear, crowded together: spikes terminal, dense-flowered: calyx glabrous, shorter than the spur. Flowers large. Naturalized. 1—2 f. T. P. B. N.

canadense, W. (flax snap-dragon. W. w-b. J. ♃.) rising in a curve, glabrous, simple: leaves scattered irregularly, erect, narrow, linear, obtuse, remote: flowers racemed: scions procumbent. Flowers small. *S.* C. Y. T. P. B. N. Mich.

Exotic.

trianthophorum, (three-birds.) leaves whorled, lanceolate, 3-nerved: stem decumbent: acemes terminal, few-flowered. Flowers large.

5—1. ANYCHIA. Amar. ast. ton.

dichotoma, Mx. (fork chickweed. O. w. Ju. ♃.) stem dichotomous, very branching, spread; leaves oval, lanceolate-glabrous, erect. About 6 or 8 inches high, very slender: branches axillary: leaves obtusish: flowers mostly longer than the stipules.

baldwinia, T. (☉.) stems branched from the base, diffusely procumbent; leaves lanceolate, acute at each end, ciliate-scabrous: stamens 5. Florida.

Anychia, QUERIA.

17—1. APAR'GIA. 53. Cicho. ann. sec-sti.

autumnalis, W. (1) (false hawkweed. y. J. ♃.) scape branching, scaly: leaves lanceolate, runcinate-pinnatifid, smoothish. Naturalized. N. B. Newfoundland.

Antennaria. In allusion to the awns of the egret, which resembles the Antennæ of some insect.

Anthemis. Gr. *anthos*, flower, because of the abundance of its flowers.

Anthoxanthum. Gr. *anthos*, a flower, and *xanthos*, yellow, from the spikes inclining to that color in maturity.

Antirrhinum. Gr. *anti*, like, and *rhis*, *rhinos*, nose, because the corol resembles the snout of some animal.

Apargia. Gr. *apargia*, probably the name for the succory.

(1) Leontodon.

Southern.

orontium, W. (Ju. ⊙.) erect, branching, hairy: leaves alternate, lanceolate: flowers sub-spiked: involucre digitate, longer than the tailless corol. E. P.
tenellum. Ph. (W. b. Ju. ⊙.) small, simple, glabrous: leaves opposite, linear, acute; flowers axillary, short-peduncled: involucre bell-form.

4—2. Apha'nes. 92. Rosa. ref. ton.

Southern.

arvensis, (parsley-piert. M. ⊙.) leaves 3-parted: divisions 3-cleft, hairy: flowers axillary, glomerate: monandrous.

Apios, Phaseolus.

5—2. A'pium. 60. Umbel. stim. sto. aro. *col.*

Exotic.

petroselinum. (parsley. Ju. ♂.) cauline leaves linear: involucre minute.
graveolens, (celery. Ju. ♂.) stem channelled: cauline leaves wedge-form.

18—1. Aplec'trum. (1) 21. Orch. em. nut. in salep.

hyemale, W. (putty root. Adam and Eve. W. g-p. M. ♃.) leaf single, radical, lance-oval, many-nerved: lip 3-cleft, not produced at the base. C. N. K. Mich.

18—5. Apo'cynum. 47. Apocy. acr. eme. sud. diu.

androsaemifolium, (dog-bane. O. r-w. Ju. ♃.) stem erect and branching: leaves ovate, glabrous: cymes lateral and terminal: tube of the corol longer than the calyx, with a spreading limb. 3 f. Leaves downy when young. *S.* Mich. bit. eme.
cannabinum. Mx. (2) (indian hemp. O. g-y. J. ♃.) stem erect and branching: leaves oblong-oval, hoary beneath, and downy when young, (more or less glabrous in maturity:) cymes lateral and terminal; pubescent when young, (more or less glabrous in maturity:) tube of the corol about equal to the calyx, with an erect limb. 3 f.
hypericifolium. A. (3) (St. John's dog-bane. W. g-w. Ju. ♃.) stem erectish and branching: leaves lanceolate, glabrous, mucronate: lower ones sub-cordate at the base: cyme-panicles mostly shorter than the leaves: tube of the corol about equal to the calyx. 3 f. P. Y. O. N. T. Mich. ton. eme—.

Remark. Dr. Torrey says he follows R. Brown in the species of this genus, in which he finds some confusion. Brown seems to have forced in an additional species, not found in nature. See Darlington, page 31. The two first species have lately been much used in the cure of diseases, under the name, Wandering Milkweed, by a peculiar class of practitioners, called Thompsonians.

17—1. Apo'gon. 53. Cicho. sec- stim.

Southern.

humilis, E. (y. Ap. ⊙?) stem branching, glabrous: radical leaves oblong, narrow, sub-ovate, sessile: cauline ones strap-form, acute, entire, sessile, slightly glaucous: flowers terminal, sub-umbelled. 6—12. i. S.
lyratum, N. (W. y. ⊙.) glabrous glaucous: leaves deformed entire, or petioled runcinate, with remote divisions, cauline ones clasping: stem sub-divided, few-flowered: involucre glabrous: flowers sub-umbelled. 6 i.

Aphanes. Gr. *a*, priv. *phainomai*, to appear, from the low stature of the plant.
Apium. Celtic *apon*, water, from the habitation of some species.
Aplectrum. From Gr. *a*, without, and *plectro*, a spur, from the form of the corol.
Apocynum. Gr. *apo*, far from, and *kuon*, (*kunos*,) a dog, it being supposed destructive to those animals.
Apogon. Gr. *a*, without, and *pagon*, beard.
(1) Corallorhiza. (2 & 3) pubescens, Br.

3—1. Apte′ria. N. 13. Xyrid. asc. poi.

setacea, N. (W. w. & p. ☉.) stem with minute, ovate, remote scales: flowers, spikes with bifid branches. 6 i. St. Louis and in Florida.

12—5. Aquile′gia. 61. Ran. acr. cau. poi.

canadensis, (wild columbine. O. r. & y. Ap. ♃.) horns strait: stamens exsert: leaves decompound. Growing frequently in crevices of rocks. 15′ i. Mich.

brevistyla, Hk. (W.) sub-pubescent: spur incurved, shorter than the limb: stipe short inclined: stamens rather shorter than the corol. Upper Canada.

leptocera, N. (y. J.) calyx straight, very long, slender, divisions acute large, much longer than the stamens and styles: stem few-flowered: divisions of the leaves wedge-form, gash 3-cleft. R.

formosa, Fis. (♃. r.) spur straight, much longer than the limb: sepals lanceolate, acute, 3 times the length of the petals; style as long as the sepals. Oregon.

Exotic.

vulgaris, (garden columbine, J. ♃.) horns incurved, leafy: stem and leaves glabrous: leaves decompound. The nectariferous horns become numerous by culture; one hollow horn within another. 15 i.

Southern.

coerula, T. & J. (W. b. J. ♃.) horns straight, about twice as long as the limb of the petals: stamens and styles shorter than the corol; nectaries acute: segments of the leaves deeply lobed. 18 i. R.

14—2. Ar′abis. 63. Cruc. asc. nut.

sagittata, (wall cress. w. J. ☉. ♂.) leaves sub-dentate, rough, with the pubescens often branched: radical ones ovate or oblong, attenuated into a petiole: stem-leaves lanceolate, sagittate-cordate: pedicels as long as the calyx: siliques straight and erect. 18 i. C.

laevigata, (1) (W. w. M. ♃.) stem-leaves linear, oblong, sagittate, smooth: lower ones obovate: pedicels erect: siliques very narrow and long, at length pendulous. 2 f. O. T. D. C.

canadensis, W. (2) (sickle pod. O. w. J. ♃.) stem leaves sessile, oblong, lanceolate, narrow at the base, pubescent: pedicels pubescent, reflexed in the fruit: siliques pendulous, sub-falcate, nerved. 2 f. S. T. P.

alpina, W. (w. ♃.) sub-diffuse, branching: leaves many-toothed, villose, lanceolate, acute: radical ones sub-petioled: cauline ones heart-clasping: pedicels longer than the sub-glabrous calyx. Upper Canada. Said to have been found near Troy.

reptans, W. (Ju. ♃.) leaves roundish, entire, hirsute: having creeping shoots. P. Y.

stricta, Hk. (Bristol wall cress, w. ♃.) radical leaves oblong, tapering to the base, sub-lyrate-pinnatifid, hispid, with ramose hairs: cauline ones few, lanceolate, somewhat tapering to the base: petals oblong erect, obtuse, twice as long as the glabrous calyx: silique elongated, erect. Canada, Troy?

petrea, H. (O. w. A. ♂.) stem erectish or diffused, glabrous: radical leaves rather long-petioled, entire, toothed or lyrate-pinnatifid; cauline ones lanceolate sub-petioled, entire or toothed: petals obovate unguiculate: siliques exsert-spreading. Hooker says this our A. *lyrata* is the European A. *petrea*, which I here adopt.

dentata, T. (☉. w. Ap.) stellately pubescent: radical leaves obovate, tapering at the base into a petiole as long as the limb, irregularly; sharp toothed: cauline ones, oblong, clasping: flowers minute: petals spatulate, scarcely longer than the calyx; silique short, spreading, on very narrow pedicels, pointed with a nearly sessile stigma; stem branched from the base. Ohio, Missouri, Arkansas, Mississippi.

ambigua, D. (☉.) leaves nearly glabrous, the radical ones sinuate-lyrate; middle ones oblong-oval and toothed, attenuate at the base; the uppermost linear-oblong and entire: stem nearly simple: silique somewhat erect, two inches long. Unalaschka, Sitcha.

Apteria. Gr. *a*, without, *pteris*, wing; from the wingless corol.

Aquilegia. Lat. *aquila*, an eagle, its nectaries resembling eagles' claws.

Arabis. From *Arabia*, this genus being first used by physicians of that country.

(1) Turritis lævigata W. (2) falcata Mx.

rupestris, N. (☉.) more or less hirsute; radical leaves oblong spatulate; cauline ones, lanceolate, clasping, sparingly toothed: petals twice as long as the calyx: silique very long and narrow. One and a half to two feet high. Oregon.

spathulata, N. (♃. May. w.) hirsute, somewhat cespitose: leaves spreading, about twice the length of the calyx: siliques rather short, diverging, pointed with a distinct slender style. 4 inches high. High hills of the Platte.

heterophylla, N. (☉.) nearly smooth, radical leaves spatulate, toothed; upper ones linear, sessile, entire: siliques long and spreading: petals linear-oblong, exceeding the calyx. Maine, New Hampshire.

sparsiflora, N. (p.   ) somewhat pilose toward the base, much branched: cauline leaves oblong, clasping, entire: flowers minute; siliques very long, flat, spreading. Rocky Mountains.

puberula, N. (♃.) somewhat cespitose, more or less pubescent with dense stellate hairs: leaves entire, linear-lanceolate, sessile: siliques flat, straight, pendulous: the pedicels about twice the length of the sepals: seeds with a slight margin: stem a span high. Oregon.

microphylla, N. (p.   ) smoothish and somewhat cespitose: leaves linear, rather acute; cauline ones very few, sessile: stem filiform, very few-flowered: silique long, flat, spreading. Rocky Mountains.

canescens, N. (♃. p.   ) cespitose, densely and canescently pubescent with stellate hairs: leaves entire, linear, dense, crowded about the root; those of the stem much smaller, sessile: silique, broadly linear, flat, nearly straight, pendulous, acute; stigma sessile. A span high. Rocky Mountains.

Arabis CARDAMINE.

16—10. A'RACHIS. 93. Leg. nut. asc. ape.

Exotic.

hypogæa, (pea-nut, false ground-nut. ☉.) stem pilose, procumbent: leaves pinnate, abrupt: flowers axillary. Peduncles become elongated, and deposit fruit under ground to ripen. T.

5—5. ARA'LIA. 59. Aral. stim. res.

spinosa, W. (shot-bush, angelica tree. W. w. y-w. Au. ♄.) woody: stem and leaves thorny, leaves doubly pinnate; leafets slightly serrate: panicles very branching: umbels numerous. 5—10 f. *S.* P. H.

hispida, Mx. (bristle-stem sarsapilla. A. w. J. ♄.) low, sub-shrubby: stem and petioles rough with bristles: leaves doubly pinnate: leafets ovate, gash-serrate, unarmed, glabrous: umbels with long peduncles. Neglected fields. 20 i. T. M. N. Mich. Sud. *col.*

racemosa, W. (spikenard. O. w. J. ♃.) branches spreading: petioles 3-parted, the partitions 3 to 5-leaved; leafets often heart-form: branchlets axillary, leafy: umbels many, sub-panicled, leafless above. Damp. 4 f. *S.* Mich. fra. pec.

nudicaulis, W. (wild sarsaparilla. O. w. M. ♃.) hardly a proper stalk, 1-leafed; the leaf twice ternate, or once, and quinate: leafets oblong-oval: scape naked, shorter than the leaf; umbels few. Woods. 15. 24 i. *S.* Mich. ton. res.

erinacea, (L.) stem very spinous: leaves sub-palmate, very acute, lobes gashed; petioles and nerves spinous: the little umbels globose, disposed in racemes.

10—1. AR'BUTUS. 51. Eric. diu. ast.

uva-ursi, W. (1) (bear-berry, kinnikinnick. O. w-r. M. ♄.) stem procumbent: leaves wedge-obovate, entire: berry 5-seeded. Dry, barren sand-plains, &c. Very abundant about the great lakes. Schoolcraft. T. N. R. Mich. nar- ton.

laurifolia, W. (W. ♄.) leaves oblong, acuminate at both ends, acutely serrate, glabrous: racemes axillary, 1-sided, sessile, solitary.

Arachis. Gr. *arakos*, a kind of rooting plant, used by the ancients: after which this was named, as it produces its fruit under ground.

Aralia. A name of an unknown Canadian.

Arbutus. Lat. *arbutus*, Pliny's name for the wild strawberry-tree.

(1) Arctostaphylos. Sl.

menziesii, Ph. (W. ♄.) becoming woody: leaves broad-ovate, entire, glabrous, having long petioles; racemes axillary and terminal, panicled, dense-flowered.

tomentosa, Ph. (W. ♄.) becoming woody: branches hispid: leaves oval, acute, subcordate at the base, white-downy beneath, having short petioles: peduncles axillary, of the length of the leaves, bearing head-racemes: flowers bracted.

alpina, (strawberry-tree, w. M. ♄.) stem procumbent; leaves obovate, acute, rugose, serrate; racemes terminal. Canada.

5—2. Archemo'ra. 60. Umb. sto. or nar. if nau.

ambigua, Ph. (water drop-wort, W. w. Au. ♃.) leaves gash-pinnate, 3—5 pairs, acute, leafets lance-linear, often falcate and mostly entire: fruit ovate: stem smooth. 3—5 f. Y. P. Mich. Probably *rigida.*

rigida, (W. w. S. ♃.) leaves gash-pinnate, smooth; leafets lance-oblong entire, or with remote teeth: stem terete, striate. 2—4 f. P. Y. Mich.

tricuspidatum, (Ju. ♃.) leaves gash-pinnate, lower leafets lanceolate, upper ones obovate. 2—3 f.

20—4. Arceutho'bium. 58. Lora. ast.

oxycedris, M. Bieb. (false mistletoe.) leafless: very branching, branches opposite; obtusely 4-cornered: flowers terminal, sometimes lateral, very small. Resembles the Salicornia in its articulated branches. Parasitical, growing on the Pinus ponderosa. R.

17—1. Arc'tium. 54. Cardu. sec- stim. cat. if nau.

lappa, (burdock. O. r. Au. ♃.) cauline leaves heart-form, petioled, toothed: flowers panicled, globose: involucre smooth. Mich. *Rhe. gout.* h bit- cat.

10—3. Arena'ria. 82. Cary. emol. ton-

serpyllifolia, W. (thyme-leaved sand-wort. W. w. Ju. ☉.) stem dichotomous, spreading: leaves ovate, acute, sub-ciliate: calyx acute, sub-striate: petals shorter than the calyx. 5 i. S. P. H. O. C. T. Mich.

glabra, Mx. (w. O. ♃.) very glabrous, sub-erect, filiform, many stems: leaves subulate-linear, flat, spreading: pedicels 1-flowered, elongated, divaricate: sepals oval, obtusish, smooth, shorter than the petals. 4—6 i. Shawangunk, White Mts. N.

stricta, Mx. (W. A. w. M. ♃.) glabrous, erect, many stems: leaves subulate-linear, erect: panicles few-flowered: petals much longer than the calyx, which is oval-lanceolate, apparently striate. Dry. 6—12 i. N. T. D. H. Mich.

squarrosa, Mx. (w. Ju. ♃.) turfy: lower leaves scaly-imbricate, enamelled, glabrous: stems few, very simple: flowers few, terminal, erect: petals much larger than the roundish calyx. 6 i. Y.

thymifolia, Ph. (Labrador. L. ☉.) stem dichotomous, diffuse: leaves oval, sub-acute: peduncles alternate, axillary, solitary, elongated: calyx acute: petals of the length of the calyx.

macrocarpa, (W. ♃.) cespitose: leaves crowded, linear-subulate, flat; margin ciliate: peduncles terminal, 1-flowered: sepals linear: petals ovate, twice as long as the calyx: capsule thrice as long as the calyx.

fasciculata, W. (☉.) sub-glabrous, cespitose: stems straight-erect: leaves subulate, pungent, striate: flowers dense-fascicled: calyx subulate, striate: petals very short. Canada.

laricifolia, W. (W. ♃.) pubescent, cespitose-many-stemmed: leaves setaceous: little stems 1 to 3-flowered, erect: sepals linear, sub-hirsute, half as long as the petals. Canada.

juniperina, W. (W. ♃.) sub-pubescent, erect, many-stemmed: leaves subulate, somewhat 3-sided, pungent: panicle terminal, dichotomous, many-flowered: sepals lance-ovate, striate, mucronate, about half as long as the petals. Newfoundland. D.

Archemora. Gr. *arche*, the conqueror, *moros*, fool, on account of its poisoning those who are foolish enough to eat it. Called fool's parsley.

Arceuthobium. Gr. *arkeuthos*, juniper tree; *bios*, life, on account of its living on the juniper or cedar trees.

Arctium. Gr. *arctos*, a bear, from the rough bristly fruit.

Arenaria. Lat. *arena*, sand, from its native soil.

propinqua, Hk. (W. ♃.) cespitose, glandular-hairy: leaves linear-subulate, acute, 3-nerved: calyx acute, 3-nerved, scarcely longer than the petals, and shorter than the capsule. Probably the *verna* is a variety of this. Rocky Mts. and west of them.

rubella, Hk. (W. ♃.) stems cespitose, numerous: peduncles terminal, pubescent, 1-flowered: leaves linear-subulate, obtuse, 3-nerved: petals lance-oval, and shorter than the 4-valved capsule, or the lanceolate acute 3-nerved calyx. R.

rossii, Hk. (W. ♃.) very glabrous: leaves 3-sided-subulate, obtusish, beardless, nerveless, scarcely equalling the flower: peduncles 1-flowered, elongated: petals oblong, somewhat exceeding the obsoletely 3-nerved calyx. R.

franklinii, Douglas. (W. ♃.) branches erect, level-topped, numerous, fragile: leaves shining, subulate-setaceous: flowers fascicled: divisions of the calyx subulate, scarious: broad-nerved, exceeding the oblong petals. W. R.

buxifolia, Hk. pubescent: leaves ovate-oblong, sessile: stem creeping: peduncles dichotomous, somewhat 2-flowered: divisions of the calyx linear, short, obtuse, membranaceous at the margin: petals scarcely longer than the calyx: capsule ovate, obtuse, equalling the calyx. Canada.

lateriflora, Hk. (sand-wort. W. w. J. ♃.) minutely pubescent: stem erect, slender, simple or fork branched: leaves oblong, oval, obtuse, ciliate, spreading: peduncles lateral and terminal, elongated, 2 to 4-flowered: pedicels alternately bracted: divisions of the calyx oval, obtuse, nerveless: about half as short again as the corol. 6—10 i. N. T. R. Hudson's Bay. Mich.

peploides, Hk. (sea chickweed. Ju. ♃.) glabrous: leaves ovate or oblong, acute, fleshy: flowers sub-solitary, short-peduncled: divisions of the calyx obtuse, exceeding the corol. 8—12 i. Lower Canada, Labrador. Y.

obtusa, T. (1) W. A. ♃.) cespitose, many-stemmed: leaves linear-subulate, obtusish, keeled, a little 1-sided: stem simple, mostly 1-flowered: peduncles with glandular hairs: nectaries oblong-obtuse, 3 nerved: petals about twice as long as the calyx: capsules ovate, shorter than the calyx. D.

congesta, N. (♃.) cespitose, glabrous: leaves long linear-subulate, pungent: flowers in roundish heads, with crowded membranous bracts: sepals ovate, membranaceous obscurely 3-nerved, about half the length of the oblong petals: stem simple, a foot high. Rocky Mountains.

hookeri, N. ( ) stem branched from the base, cespitose, 3 inches high, fastigiate-pubescent: leaves subulate-setaceous: flowers fascicled: sepals lanceolate-subulate, 1-nerved, membranaceous, rather shorter than the oblong, obtuse petals. Rocky Mountains.

nardifolia. Ledeb. (♃.) cespitose: leaves fascicled, linear-setaceous, very narrow, mucronate, glabrous: stems erect, glabrous, 1 to 3-flowered: petals obovate, longer than the very obtuse, ovate 5-nerved sepals. Arctic Sea-shore.

pungens, N. (♃.) cespitose: minutely glandularly pubescent: leaves subulate, channelled, pungent, the lower ones squarrosely imbricated and crowded: flowers few, sub-panniculate: sepals lanceolate, obscurely 3-nerved, longer than the oblong-ovate petals. Rocky Mountains.

tenella, N. (☉.) erect, slender, somewhat branched from the base: leaves filiform, subulate, acute: peduncles minutely glandular-pubescent: petals oblong, nearly twice the length of the acute 3-nerved shortish sepals. Oregon, Arkansas.

greenlandica, Spren. (♃. Ju. Aug.) cespitose, glabrous; stems two, decumbent at the base, 1 to 5-flowered: leaves very narrow, linear, obtuse: pedicels filiform, nearly erect: petals obovate-cuneiform, entire or with a slight notch, twice the length of the rather oblong, very obtuse, membranaceously-margined, nerveless sepals. Greenland to N. Y.

hirta, Worm. (♃.) leaves linear-subulate, obtuse 2-furrowed, minutely hirsute: stems 2 to 3-flowered: sepals 3-nerved, acute, shorter than the capsule: petals oblong, a little shorter than the calyx. 3 i. Green.

ciliate, Lin. ( ) leaves ovate or obovate, bullate-rugose, more or less nerved and ciliate: stems procumbent: sepals lanceolate, acute, nerved shorter than the petals, as long as the ovate 6 valved capsule. Green.

macrophylla, Hk. ( ) stem slender, erect, dichotomously branched: leaves spreading, lanceolate, acute at each end, glabrous: peduncles terminal or lateral, 2 or 3-flowered: sepals ovate, sharply acuminate, longer than the petals and capsules. Oregon.

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(1) arctica of Hk. Rocky Mts. James.

Southern.

patula, Mx. (W. ♃.) pubescent: stems filiform, panicled, many-flowered: leaves setaceous: subulate, spreading: petals sub-emarginate, longer than the acute striate calyx. K.

pitcheri, N. (☉.) erect and slender, glabrous, fastigiately branched, few-flowered: leaves linear-filiform, obtuse, not fascicled: peduncles slightly glandular-pubescent: petals oblong, somewhat exceeding the lanceolate, strongly five (sometimes three) nerved sepals. Texas, Arkansas.

brevifolia, N. (☉. w.) glabrous, not cespitose: stems filiform, erect, simple, 2 to 3-flowered: leaves minute, erect, lanceolate, subulate, nerveless: sepals oblong, obtuse, with scarious margins, about the length of the 3-nerved capsule: petals obovate-oblong, nearly twice the length of the calyx. 2 to 4 i. Georgia.

18—1. ARETHU'SA. 21. Orch. nut. emo.

bulbosa, W. (arethusa, r. J. ♃.) leafless: root globose: scape sheathed, 1-flowered: calyx with the superior divisions incurved: lip sub-crenulate. Flowers large, sweet-scented. Damp. T. N. Mich.

Arethusa, see TRIPHORA and POGONIA.

12—1. ARGEMO'NE. 62. Papa. s. nar. ano. cat. h. diu.

mexicana, W. (Prickly poppy. y. Ju. ☉.) leaves pinnatifid, gashed, spinose: flowers axillary. Var. *albiflora*, leaves pinnatifid: flowers large. *S.* P. H. Platte river.

3—2. ARIS'TIDA. 10. Gram. far. ton.

dichotoma, Mx. (beard grass, poverty grass. O. S. ☉. ♃.) cespitose: culm dichotomous: flowers racemose-spiked: lateral awns very short, intermediate ones contorted. 8—12 i.

stricta, Mx. (♃.) culm and leaves straight, erect: leaves pubescent: raceme long, somewhat spiked, crowded: awn twice as long as the paleas, spreading. 3f. S. P. Mich.

purpurascens, (S. ♃.) culm filiform, erect, simple: leaves very narrow, flat: flowers in a long-spiked panicle: awns nearly equal, twice the length of the paleas. 2 f. *S.*

Southern.

spiciformis, E. (S. ♃.) flowers crowded together, somewhat spiked: the middle awn villous at the base. 3 f.

gracilis, E. (S. ♃.) stem very slender: flowers in spikes: spikelets few-flowered, somewhat remote, appressed: lateral awns short, erect: the intermediate ones longer, expanding. 1 f.

lanosa, M. (S. ♃.) panicle erect, appressed: flowers in racemes: glumes longer than the paleas: sheaths of the leaves woolly. 2—4 f.

oligantha, Mx. (J. ♃.) culm straight, sub-ramose: leaves convolute-filiform: flowers solitary, distant: awn long, divaricate. *S.* P.

fasciculata, T. (W.) culm filiform, erect, branched: leaves narrow, flat, smooth: panicle long, sub-spiked: flowers in fascicles: glume shorter than the paleas: awns nearly equal, spreading, longer than the flower.

pallens, (W.) panicle few-flowered, pedicelled, alternately 2-flowered, approximate; awn capillary, very long: leaves filiform.

tuberculosa, N. (   ) culm erect, dichotomous, joints tumid, with small tubercles in the axils: panicles rigid: glumes keeled, with long subulate points: paleas stiped; awns smooth, convolute. 3 f.

18—6. ARISTOLO'CHIA. 23. Aris. ton. stim. asp. ano.

sipho, Hr. (birthwort. W. w. J. ♄.) leaves heart-form, acute: stem twining: peduncles 1-flowered, furnished with an ovate bract: corol ascending; limb 3-cleft, equal. A very high running vine, with large leaves: flowers yellowish brown. P. K.

Arethusa. From the celebrated fountain of that name near Syracuse, or from one of the Hesperides.

Argemone. Gr. *argema*, the cataract, a disorder of the eyes, which it was said to cure.

Aristida. Lat. *arista*, an awn, characteristic of the genus.

Aristolochia. Gr. *aristos*, best, and *locheia*, parturition.

serpentaria, (W. p. J. ♃.) leaves heart-form, oblong, acuminate: stem zigzag, ascending: peduncles radical: lip of the corol lanceolate. (The Virginia snake-root.) There is a variety with very long, narrow leaves. Tonic and diaphoretic. Bw. P. Y. D. O. H. K. Ant-poi. res-bit. sto.

Southern.

tomentosa, Sims. (A. g-y.) stem twining: leaves roundish-cordate, downy beneath: corol villous: border 3-cleft, nearly equal.

hastata, N. (A.) stem flexuose, simple, erect: leaves somewhat cordate, hastate, acute: flowers on scapes: lip of the corol ovate.

11—1. Armenia'ca. 92. Pom. ref. ape. ton.

Exotic.

vulgaris, (apricot. .) leaves sub-cordate: stipules palmate. Var. *precox*. (early apricot,) fruit small, yellow. Var. *persicoides*, (peach apricot,) fruit sub-compressed.

dasycarpa, (black apricot. .) leaves ovate, acuminate, doubly serrate: petioles glandular: drupe globose, pubescent.

17—2. Ar'nica. 55. Inu. ton. sec- stim.

nudicaulis, (y. J. ♃.) hairy: radical leaves decusssate and opposite, oblong-oval, sub-dentate: stem nearly leafless, divided at the top into several 1-flowered branches. Woods. 18 i.

doronicum, W. (A. y. Ju. ♄.) leaves remote, toothed, woolly-hirsute beneath; radical ones petioled, oblong, narrow at the base; cauline ones alternate, lance-oblong: stems one flowered. 7 i.

plantaginea, Ph. (A. y. Ju. ♃.) glabrous: leaves entire, glabrous both sides, acute, 3-nerved; radical ones lance-spatulate, terminating in a narrow petiole at the base; cauline ones oposite, lanceolate, sessile: stem 1-flowered. 7 i.

maritima, W. (W. ♄.) leaves lanceolate; lower ones serrate: stem leafy, many-flowered.

Southern.

fulgens, Ph. (W. y. Ju. ♃.) hairy: radical leaves lanceolate, obtusish, tapering to the base: petioles 3-nerved: cauline leaves opposite, remote, linear; stem 1-flowered. 1 f.

claytoni, Ph. (E. y. Ju. ♄.) hirsute: radical leaves decussately opposite, oblong-ovate, sub-dentate; stem somewhat leafless: top divided into 1-flowered peduncles. 2 f.

11—5. Aroni'a. 92. Pom. ref. ape. ton.

botryapium, P. (1.) (shad-bush, june-berry. O. w. Ap. ♄.) leaves oblong-oval, cuspidate, glabrous when mature, (when first expanded lanceolate and downy:) flowers racemed: petals linear: germs pubescent: segments of the calyx glabrous without, and hairy within. 8—30 f. Mich.

sanguinea, (2) (bloody choak-berry. W. w. M. ♄.) leaves oval, obtuse at both ends, mucronate; serratures very slender: racemes few-flowered: calyx glabrous: petals linear, obtuse. 3—6 f. T. B. Mich.

ovalis, P. (3) (medlar bush. w. M. ♄.) leaves round-oval, acute glabrous: flowers racemed: petals obovate: germ, and segments of the calyx, pubescent. Var. of *botryapium?* T. Mich.

Southern.

alnifolia, N. (W. M. ♄.) smooth: leaves roundish, upper part toothed, pinnately nerved, sub-glaucous beneath: raceme simple, elongated. Fruit black and sweet.

Armeniaca. From Armenia, whence it was brought.

Arnica. This is said to be a variation of *ptarmica*, derived from Gr. *ptairo*, to sneeze. Others derive it from Gr. *ars*, *(arnos,)* a lamb, the leaf of this plant resembling the coat of the lamb.

Aronia. Gr. *aronia*, the medlar tree.

(1) Pyrus botryapium, W. Mespilus canadensis, L. Amelanchier, Med. (2) Pyrus sanguinea, Ph. (3) Mespilus canadensis. Var. obovalis, Mx. Crataegus spicata, Lk.

3—2. Arrhenath'erum. 10. Gram. far. ton.

avenaceum, (J. ♃.) panicle equal, nodding: awn as long again as the flower: culm geniculate, smooth: root nodose. 3 f.

pennsylvanicum, (Ju. ♃.) panicle attenuated: branches short, alternate: awn twice as long as the florets: seeds villose.

Southern.

kentuckiensis, T. (W. ♃.) branches of the panicle fascicled, not alternate: upper floret has the superior valve furnished with a short awn a little below the tip.

17—2. Artemi'sia. 55. Anth. ton. sec- stim.sto. *dysp.*

canadensis, Mx. (wild wormwood. O. w. y. Au. ♃.) sub-decumbent, scarcely pubescent: leaves flat, linear-pinnatifid: branchlets spike-flowered: flowers sub-hemispheric: involucre scarious. Receptacles smooth. 3—4 f. Mich.

caudata, (W.? L. S. ♃.) stem simple, herbaceous, much branched, pyramidal: radical and cauline leaves bipinnate, pubescent, upper ones pinnate, with sub-setaceous, alternate, divaricate, somewhat convex segments: flowers pedicelled, erect, globe-ovate. 2 f. S.

chinensis, W. (W. S. ♃.) hoary: lower leaves wedge-form, obtuse, 3-lobed; upper ones linear, obtuse: flowers globose, peduncled, nodding.

spithamea, Ph. (S· ♃.) small, silky-pubescent: lower leaves linear, upper ones pinnatifid; divisions few, linear, acute: flowers racemed short-peduncled, hemispheric: involucre scarious.

gnaphaloides, N. (W. S. ♃.) white-downy: stem simple, herbaceous: leaves lance-linear, sub-entire, downy both sides: flowers raceme-glomerate, pedicelled, nodding. involucre oval-oblong: the pistillate florets 6 or 7. 2 f. Mich.

vulgaris, (W. mugwort. common tansey. S. ♃.) leaves downy beneath: cauline ones pinnatifid; divisions lanceolate, sub-toothed, acute: floral ones undivided, linear-lanceolate: flowers sub-sessile, oblong erect: involucre downy. R.

longifolia, N. (W. ♃. & ♄.) stem simple: leaves mostly entire, lance-linear, acuminate; margin reflexed; under side white-downy: flowers cylindric-ovate, erect, in sessile conglomerate racemes. *ludoviciana?* N. R.

indica, aro. asp. W. (♃. ♄.) somewhat woody: erect, raceme-panicled, ovate: panicle leafy, spreading, racemes before flowering pendulous: florets naked: outer scales of the involucre leafy acute; inner ones membranaceous obtuse: leaves ash-tomentose beneath; inferior ones pinnatifid, upper ones trifid, top ones simple, divisions lanceolate, inferior sub-dentate or gashed. Canada.

purshiana, Bess. (♃. ♄.) ascending, whitish: heads in an ovate panicle, which is leafy and straight; florets naked, leafets white beneath: cauline leaves lance-cuneate mucronate, entire. A. R.

douglassii, Bess. (♃.) sub-fruticose, straight, whitish: heads in spiked hemispheric panicles; panicle sub-foliaceous, florets naked, scales of the involucre oval, inner ones scarious at the apex, leafets whitish beneath: cauline leaves lanceolate acute entire. R.

arctica, Bess. ( ) cespitose: heads raceme-spiked, glomerate globose; peduncles wooly at the tip; florets sub-pilose at the apex: scales of the involucre fuscous scarious above: leaves somewhat silky, cut-pinnate below, trifid above, divisions of the radical ones tri-quinate, of the upper ones undivided, linear, obtuse. A.

lindleyana, Bess. (♄.) whitish above, spike with panicled sub-hemispheric heads, erect: florets naked; scales of the involucres scarious at the apex, outermost foliaceous; leaves sub-linear white-tomentose beneath. R.

hookeriana, Bess. (♃. ♄.) erect: heads thyrse-panicled, globose, nodding, scarcely leafy: heads white-woolly with scales scarious at the margin, rounded: leaves whitish, cauline ones pinnatifid, divisions and floral leaves lance-linear acute. R.

glomerata, H. ( ) densely cespitose silky-villose: branches short, closely foliate: leafets short, 3—5-cleft-palmate, divisions short-acuminate, lower ones sessile, cauline ones broad-petioled: flowers capitate, receptacle naked. A.

caespitosa, Bess. (L.) heads raceme-spiked, glomerate, globose: peduncles wooly at the apex: florets fine-hairy above: scales of the involucre fuscous, scarious, a little

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Arrhenatherum. Gr. *arrhen*, stamen, and *atheros*, beard of chaff.

Artemisia. From *Artemisia*, the wife of Mausolus, or from *Artemas*, a name of Diana.

woolly on the back; leaves somewhat silky, radical ones long-petioled; cauline ones cut-pinnate below and trifid above, divisions of the lower 3—5-gash-cleft, of those below undivided linear obtuse. A.

michauxiana, Bess. ( ) herbaceous heads in globose racemes, nodding: stem very simple: florets naked, lateral scales of the glabrous involucre scarious, shining: leaves white downy beneath, pinnatifid, divisions of the lower ones gash-toothed, those of the upper and floral ones lance-linear. R.

prescottiana, Bess. (♃. ♄.) heads in globose spikes, sub-erect, on very simple branches; florets naked: scales of the involucre scarious at the margin, shining: leaves whitish beneath, revolute at the margins, pinnatifid or 3-cleft: divisions diverging; divisions and leaves linear-filiform at the summit. R.

chamissoniana, Bess. ( ) herbaceous; heads large, in globose racemes: stem very simple: florets chiefly peduncled at the base and hairy at the apex: leaves sub-glabrous, lower ones bi-pinnatifid and petioled, upper ones pinnatifid and sessile, divisions lance-linear, somewhat gash-toothed. R. A.

cana, W. (W. S. ♃.) hoary: leaves long, lance-linear, acute, nerved, whitish both sides; lower ones wedge-form, acutely 3-lobed: flowers oval, in glomerules, axillary, sessile. R.

frigida, W. (W. Oc. ♃.) leaves hoary, pinnate; leafets 3-parted, linear, acute: floral ones pinnate, 3-parted; stem ascending: flowers globose, nodding.

Exotic.

pontica, (roman artemisia.) leaves downy beneath; cauline ones bipinnate; leafets linear: branches simple: flowers roundish, peduncled, nodding.

absinthium, ton. sto. (wormwood. ♃.) stem branching, panicled: leaves hoary, radical ones triply pinnatifid: divisions lanceolate, toothed, obtuse; cauline ones 2-pinnatifid, or pinnatifid: divisions lanceolate, acutish; floral ones undivided, lanceolate. Naturalized in most mountain districts of New England. *gout. dysp. epi.*

abrotanum, ath. (southern-wood. ♃. and ♄.) stem straight: lower leaves bipinnate: upper ones capillary, pinnate: involucre pubescent, hemispheric.

Southern.

santonica, W. (W. S. ♃.) cauline leaves glabrous: branches undivided: spikes 1-sided, reflexed; flowers sub-sessile, 5-florets.

campestris, W. (field wormwood. W. S. ♃.) cauline leaves setaceous-pinnate, glabrous; radical ones pinnate, with 3-cleft hoary divisions: stem procumbent, branching, wand-like; flowers ovate, peduncled.

biennis, W. (W. ♂.) leaves glabrous; radical ones 3-parted-pinnate: lower cauline ones pinnatifid; upper ones linear, undivided: stem straight: flowers roundish, sub-sessile, erect.

serrata, N. (W. ♃.) leaves lanceolate, acuminate at both ends; margin serrate; upper side smooth, under white-downy: flowers panicled, erect: involucre small, cylindrical-ovate. 5 f.

columbiensis, N. (wild sage. W. ♃. ♄.) canescent, leaves lance-linear, acute, flat, hoary both sides, entire: flowers oblong, glomerate, axillary, sessile, all perfect. 10 f. Highly aromatic.

cernua, pum. N. (1) (W. ♃.) stem much-branched: radical leaves 3-cleft; lower ones lacinated, hoary, pubescent when young: upper ones entire, lance-linear, smooth: racemes panicled, nodding: florets pedicelled, sub-globose, inclined: involucre scarious. 8 f.

ludoviciana, N. (W. ♃.) stem simple: lower leaves sub-gash-pinnatifid; upper ones lanceolate, entire, hairy above, downy beneath: flowers ovate, erect, sessile: involucre pubescent: panicle simple. 2 f.

nuttalliana, Bess. (♃. ♄.) heads in a globose panicled raceme: outer scales of the involucre linear-oblong, margined: stem erect: panicle spreading: lower leaves glabrous, cauline ones undivided at the base and trifid, divisions and branches lanceolate acute. Red River.

19—2. A'RUM. 7. Aroi. acr. exp. r. amy. if dry.

dracontium, W. (green-dragon, W. J. ♃.) stemless: leaves pedate; leafets lanceo

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Arum. Formerly *aron*, supposed to be an ancient Egyptian word.

(1) dracunculoides, L. dracunculus, Ph.

late-oblong, entire; spadix subulate, longer than the oblong-convolute spathe. River alluvion. 12—18 i. P. T. N. O. M. Mch. poi—. if green.

atrorubens, W. (brown-dragon. M. ♃.) stemless: leaves ternate; leafets ovate, acuminate: spadix cylindrical: spathe sessile, ovate, acuminate, spreading horizontally above. Spathe dark-brown: disagreeable smell. P.

triphyllum, W. (indian turnip, wild turnip, wake robin. O. p. g. & w. M. ♃.) subcaulescent: leaves ternate; leafets ovate, acuminate: spadix club-form: spathe ovate, acuminate, peduncled, with the laminæ as long as the spadix. One variety, *virens*, has a green spathe; another, *atropurpureum*, has a dark-purple spathe; another, *album*, has a white spathe. 1—3 f. Wet. Mch. r. dried, amy-sago.

Southern.

quinatum, N. (♃.) stemless: leaves quinate, lanceolate, acuminate.

walteri, (Ap.) stemless: leaves sagittate, triangular: angles divaricate, acute.

3—2. ARUN'DO. 10. Gram. far. ton.

phragmites, Linn. (reed-grass, ♃. Aug.) spikelets 3 to 5-flowered: glumes shorter than the florets: paleas awnless; the lower linear lanceolate with a long slender acumination, which is involute and resembles an awn. Mich. P. communis.

Southern.

aroides, Mx. (♃.) panicle sub-coarctate, incurved: glumes 2-flowered, glabrous, unequal: paleas membranaceous, of the length of the glumes: hairs equalling the paleas: leaves flat, scabrous.

18—12. ASARUM. 23. Aris. ton. stim. exp. pec.

canadense, (1) (white snakeroot, wild ginger, false colt-foot. O. g-p. M. ♃.) leaves broad kidney-form, in pairs: calyx woolly, deeply 3-parted; divisions sub-lanceolate, reflected. Root aromatic and stimulent. Bw. *S.* Mch.

virginicum, W. (M. ♃.) leaves solitary, round heart-form, glabrous, leathery: flowers sub-sessile: calyx glabrous above, short bell-form. Leaves speckled, smooth. S. P.

Southern.

arifolium, (p. March. ♃.) leaves sub-hastate, cordate: calyx urceolate, border 3-cleft, converging, pubescent within.

18—5. ASCLE'PIAS. 47. Ascl. acr. eme. stim. *ple. cat. pne.*

1. *Leaves opposite.*

syriaca, (common milkweed, swallow wort. O. w-p. Ju. ♃.) stem very simple: leaves lanceolate-oblong, gradually acute, downy beneath: umbels sub-nodding, downy, flowers in large close clusters, sweet scented—pollinia are fly-traps. 3—5 f. S. Mch.

obtusifolia, Mx. (2) (W. p. J. ♃.) leaves clasping, oblong, round-obtuse, sometimes mucronate, waving: umbel terminal, long-peduncled, many-flowered, glabrous; the horn of the nectary exsert. Flowers large. 2—3 f. S. C. P. Y. Mch.

phytolaccoides, Ph. (O. w-g. Ju. ♃.) stem erect, simple: leaves broad-ovate, acute, glabrous, paler beneath: nectaries truncate, internal margin 2-toothed: umbels lateral and terminal, long-peduncled, nodding. The horn of the nectary is very long and slender. 3 f. S. Mich.

periplocæfolia, N. (3) (w-g. Ju. ♃.) leaves sub-sessile, somewhat distant, lance-ovate, narrowing upwards, very acute, smooth on both sides, margin rough: umbels mostly 2, naked, lateral: root round-tuberous: segments of the nectaries oblong-linear. 2 f. S. Y.

Arundo. Lat. *arundo*, a reed, from *arco*, to dry, because it soon becomes dry.

Asarum. Gr. *a*, without, and *sairo*, to adorn; not being used in ornamental chaplets by the ancients. Boerhaave.

Asclepias. *Asclepias* is the Greek name of the Aesculapius of the Latins, the god of medicine.

(1) carolinianum, Wr. latifolium. Sy. (2) purpurascens, Wr. (3) acuminata, Ph. cordata, Wr. laurifolia, Mx.

amœna, W. (W. p. Ju. ♃.) stem simple, a little hairy on two sides: leaves sub-sessile, oblong-oval, pubescent beneath: terminal umbels and nectaries erect, appendages exsert. Damp. *S.* C. Y. P.

purpurascens, W. (p. Ju. ♃.) stem simple, leaves ovate, villose beneath; umbels erect: horn of nectaries resupinate. Shades. 2 f. *S.* Y. N. Mch.

pulchra, W. (r. Ju. ♃.) leaves lanceolate, hairy under side: stem divided towards the top: umbels erect in pairs. Flowers small: bark very showy.

variegata, W. (1) (W. w. Ju. ♃.) stem simple erect: leaves ovate, petioled, rugose, naked: umbels sub-sessile, pedicelled, tomentose. The umbels dense. *S.* Y. P. N.

incarnata, W. (O. r. Ju. ♃.) stem erect, downy, branching above: leaves lanceolate, sub-downy both sides; umbels mostly double at their origin: the little horn of the nectary exsert. A variety *pulchra*, is more hairy. Var. *glabra*, almost glabrous: with two opposite longitudinal hairy lines on the stem: leaves glabrous, with rough margins, midrib glandular below. Perhaps a distinct species. Aikin. Var. *alba*, has white flowers. Damp. 3 f. *S.* Mich.

parviflora, (2) (w. Ju. ♃.) smoothish; stem weak, erect, simple: leaves petioled, oval-lanceolate, acute at both ends, membranaceous: umbels terminal, lax flowered; pedicels capillary. The bark is a good substitute for flax. 1—2 f. *S.*

quadrifolia, Ju. (O. w. p-w. M. ♃.) stem erect, simple, smooth: leaves ovate, acute or acuminate, petioled: those in the middle of the stem are largest, and mostly in fours: umbels 2 to 4, terminal, lax-flowered: pedicels filiform. Flowers small and sweet scented. 18 i.—2 f. *S.* Shades. T.

2. *Leaves not opposite.*

verticillata, Mx. (dwarf milkweed. O. g-p. w. Ju. ♃.) stem erect, very simple, marked with lines, and small pubescence: leaves very narrow-linear, straight, glabrous, whorled, scattered: horn of the nectary exsert. 2 f. *S.* Mich.

tuberosa, W. (butterfly-weed. colic-root, pleurisy-root, white-root. O. y. Ju. ♃.) stem erectish, at the top spreading-branched, very rough-haired: leaves scattered, oblong-lanceolate, rough-haired: umbels terminal, sub-corymbed. A variety *decumbens*, has a decumbent stem: leaves sub-linear, hirsute; another Var. *cordata*, has broad cordate leaves. Cathartic, diaphoretic, expectorant. Bw. 18 i.—2 f. *S.* Mich.

paupercula, Mx. (r. g. M. ♃.) leaves linear, lanceolate, very long, remote, glabrous, with the margin pubescent: umbels few-flowered. 3—4 f. N. Jersey.

Southern.

connivens, Baldwin, (J. ♃.) leaves oblong, oval, mucronate, slightly hairy, sessile: leaves of the nectary usually long, incurved, connivent at the summit. 1—2 f.

tomentosa, E. (♃.) leaves oval, lanceolate, acute, tomentose: umbels sessile, with the horns exsert. 1—2 f.

amplexicaulis, Mx. (p. w. Ap. ♃.) very glabrous: stems decumbent: leaves sessile, cordate, strongly veined, glaucous, appressed: umbels terminal and axillary. 1 to 2 f.

nivea, (Ju. ♃.) leaves ovate, lanceolate, nearly glabrous: umbels erect, lateral, solitary: stem simple.

angustifolia, E. (g. w. M. ♃.) leaves scattered, strap-shaped, slightly pubescent: umbels solitary, terminal; horns included. 8—18 i. Charleston, S. C.

cinerea, Wr. (J. ♃.) leaves long, linear, opposite: umbels few, terminal, naked: horns short. 3 f.

speciosa, T. & J. (W.) slenderly tomentose: leaves heart-ovate, obtuse, opposite, short-petioled: umbels axillary, terminal and solitary: nectaries erect, lanceolate, straight, acute; horn short, incurved, compressed. Flowers very large.

12—3. Ascy′rum. 68. Hyp. cat. feb.

crux-andreæ, W. (3) (W. peter's wort. y. Jn. ♄.) many stems, diffuse: leaves sub-lanceolate-oblong, obtuse: corymb terminal: flowers sub-sessile, 2-styled: stem sub-terete, 2 feet high: petals narrow. Var. *angustifolium*, W. leaves oblong linear, crowded: flowers lateral and terminal, erect, 2-bracted near the base: styles 1 or 2, connivent: larger sepals acute, oval-ovate. Sand. 8 i. *S.* P. Y.

Ascyrum. Gr. *a*, without, and *skuros*, rough, on account of its sleekness.
(1) hybrida. Mx. (2) perennis, Wr. debilis, Mx. (3) multicaule, Mx.

Southern.

amplexicaule, Mx. (Ap. y. ♃.) erect, sparingly branched, with the branches compressed: leaves ovate, oblong, clasping: outer sepals cordate: styles 3 to 4. 1—2 f.
pumilum, Mx. (March. y. ♃.) stem small, simple, quadrangular: leaves oval, obtuse, fascicled: pedicels long, (half an inch) reflexed: styles 1 or 2. Georgia.
stans, Mx. (1) (W. ♄.) stem woody, winged, straight, branches straight: leaves oval-ovate, obtuse, glaucous: inner sepals heart-orbicular: stamens united at the base: styles 2. K.
microsepalum, T. (March, Ap.) stem nearly terete, much branched: leaves very small, oblong-linear, crowded: flowers erect, on long peduncles: sepals much shorter than the obovate unqual petals: styles 3, long, distinct. 1 f. Flowers large. Georgia and Florida.

Asimina, Porcelia.

6—1. Aspar'agus. 12. Smil. diu. dem. edi.

Exotic.

officinalis, (asparagus. Ju. ♃.) stem herbaceous, unarmed, sub-erect, terete: leaves bristle-form, soft: stipules sub-solitary. Naturalized in the northern and southern districts. 4 f. C. P. B.

6—1. Asphode'lus. 16. Asph. stim. exp. abs.

Exotic.

luteus, (asphodel, king's spear. ♃.) stem leafy: leaves 3-sided, striate.
ramosus, (♃.) stem branching, naked: leaves ensiform, carinate, smooth.

21—1. Aspi'dium. 5. Fil. sec-stim r. ath.

1. *Frond ternate.*

cicutarium, W. (2) (♃.) leafets pinnatifid; divisions acuminate, sinuate-pinnatifid, entire; the lower and outer divisions of the sides elongated: fruit dots in rows. P.

2. *Frond pinnate.*

acrostichoides, W. (3) (O. J. to Au. ♃.) leafets lanceolate, sabre-form, acute, ciliate-serrate: on the upper side eared and dagger-pointed, on the lower side wedge-form at the base; the upper fruit bearing ones smaller: stipe and rachis chaffy: fruit-dots solitary, but at length becoming confluent. Mich.
lancastriense, M. (W. ♃.) frond pinnate; divisions nearly opposite: segments triangular-ovate, acutely serrate: stipe naked. Rather long and narrow. Fructification chiefly confined to the upper divisions, and in large blackish dots. Wet Meadows. West Cambridge. Bw.

3. *Frond sub-pinnatifid; involucre* [indusium] *halved, kidney-form.*

noveboracense, W. (4) (Ju. ♃.) frond pinnate: leafets linear-lanceolate, pinnatifid, divisions oblong, obtusish, sub-entire, ciliate: fruit dots marginal; stipe smooth. Damp woods. N. W. Y. T. P. O. C. Mich.
cristatum, W. (W. ♃.) frond lanceolate-ovate, glabrous, pinnate: leafets sub-cordate-oblong, pinnatifid; divisions oblong, obtuse, tooth-serrate; stipe chaffy. A variety, *callipteris*, largish: leafets alternate, divisions oblong, unequally appressed-serrate: frond bearing the fruit, at the top. P. Y. O.

Asparagus. Gr. *sparasso*, to tear, on account of the strong prickles, with which some of the species are armed.
Asphodelus. Gr. *a*, privative, *sphallo*, to excel, as none excelled it in beauty.
Aspidium. Gr. *aspis*, a small shield, from the shape and position of the involucres.

(1) Hypericum tetrapetalum, Lk. (2) Polypodium cicutarium, L. appendiculatum, Sw. (3) Auriculatum, Sh. Nephrodium acrostichoides, Mx. N. B. Linneus placed the genus Aspidium under the genus Polypodium. (4) Nephrodium thelypteroides.

4. *Frond doubly or triply pinnate, involucre halved, kidney-form.*

aculeatum, W. (A. Au. ♃.) frond doubly pinnate: the lesser leafets ovate, sub-sabreform, acute, dagger-serrate, the base of the upper ones truncate, of the lower ones short wedge-form: the upper ones bear the fruit: stipe and rachis chaffy. V.

marginale, W. (1) (O. Ju. ♃.) frond doubly pinnate: lesser leafets oblong, obtuse, decurrent, crenate: more deeply crenate at the base; fruit-dots marginal: stipe chaffy. 2—3 f. *S.*

filix-mas, W. (W. Ju.) frond doubly-pinnate: lesser leafets oblong, obtuse-serrate: serratures beardless: fruit-dots of the middle-rib approximate: stipe and rachis chaffy. 2 or 3 feet high. A variety, *erosum*, lesser leafets erose-serrate, more remote. Rocky hills. *S.* W. N. P. Y.

intermedium, W. (J. ♃.) frond doubly-pinnate: lesser leafets linear, gash-pinnatifid; divisions at the apex sub-mucronate-serrate: stipe chaffy. Resembles the next species in many respects. P. W. T. O. Mich.

spinulosum, W. (W. Ju. ♃.) frond doubly-pinnate: lesser leafets oblong: decurrent, running together, gash-toothed: divisions mucronate-serrate: stipe chaffy: involucre glandular. Large. W. P. T.

dilatatum, W. (2) (Ju. ♃.) frond doubly-pinnate: lesser leafets oblong, distinct, gash-pinnatifid: divisions mucronate-serrate: stipe chaffy: involucre smooth. Leaves more compound, larger and broader than the filix-femina. *S.* P. O.

goldianum, T. (W. Ju.) frond broad-ovate, smooth, bipinnate: divisions lanceolate, pinnatifid: segments oblong, obtuse, with remote uncinated serratures; the lowest decurrent on the rachis: fruit-dot near the central nerve; stem chaffy. 2 f.

5. *Frond doubly or triply pinnate: involucre attached to one side of the fruit-dot.*

These come under the Athyrium of Roth.

thelypteris, (snuff-box fern. W. Ju. ♃.) frond pinnate: leafets lance-linear, pinnatifid, glabrous: divisions ovate, acute, entire: fruit-dots marginal contiguous, at length confluent. P. Y. Mich.

bulbiferum. (W. Ju. ♃.) frond bipinnate, lance-oblong: leafets opposite, oblong, obtuse, serrate: lower one pinnatifid: rachis bulb-bearing: fruit-dots roundish. P. Y. W. O. Mich.

asplenoides. (W. Ju. ♃.) frond bipinnate: leafets lance-linear, gash-serrate; serratures 2 or 3-toothed: terminal ones more acute: fruit-dots oblong, lunate. Tall. P. Y. O. C. B. New England, Mich.

filix-femina, (Ju. ♃.) frond bipinnate: leafets lance-oblong, gash-serrate: serratures 2 or 3-toothed, acutish: fruit-dots oblong, straight. Tall. P. Mich.

angustum, (Ju. ♃.) frond bipinnate: leafets lanceolate, gash-serrate, sub-bidentate; lower one elongated above: fruit-dots oblong, sublunate. C. Y. W. P.

atomarium, frond bipinnate: leafets decurrent, ovate-oblong, pinnatifid; divisions toothed: fruit-dots scattered. About a span high. P.

tenue, (W. Ju. ♃.) bipinnate: leafets ovate, decurrent, toothed: fruit-dots solitary, near the teeth of the leafets. Small. Rocks. *S.* P. Y. T. O. Mich.

rufidulum, (J. ♃.) frond bipinnate: leafets chaff-bristly beneath, oblong, obtuse, crenate, coadunate, fruit-dots at length confluent. Small. In tufts on rocks. 4 to 8 i. C. Y. W. P. T. Mich.

21—1. ASPLE'NIUM. 5. Fil. sec-stim.

rhizophyllum, W. (walking leaf. O. Ju. ♃.) frond lanceolate, stiped, sub-crenate, heart-form ears at the base: apex very long, linear-filiform, rooting. Var. *pinnatifidum*, leaves with the crenatures so deep as to become sub-pinnatifid. Barton. Woods. T. Mich.

augustifolium, W. (3) (swamp spleenwort. W. Ju. ♃.) frond pinnate: leaves alternate, upper ones sub-alternate, linear-lanceolate, sub-repand; base of the upper ones truncate, of the lower ones slightly rounded. 2—3 f. W. Y. P. O. Mch.

Asplenium. Gr. *a*, without, and *splen*, the spleen, because it was used in curing the spleen.

(1) Nephrodium marginale, Mx. (2) Nephrodium cristatum, Mx. (3) pycnocarpon, Sl.

ebenum, W. (1) (ebony spleenwort. O. Ju. ♃.) frond pinnate; leafets sessile, lanceolate, serrulate, cordate at the base, auricled above. 6—10 i. Rocks and dry places.

melanocaulon, W. (2) (Ju. ♃.) frond pinnate: leafets roundish, obtuse crenate, at the base wedge-form: stipe particolored: stem black, polished. 3—5 i. B. C. W. Y. P. T. H. Rocks. Mch.

thelypteroides, W. (3) (silvery spleenwort. O. Ju. ♃.) frond pinnate: leafets sessile, lanceolate, acuminate, deeply pinnatifid; divisions oblong, obtuse, obtusely serrate: fruit-dots parallel, at length confluent. 2 f. W. T. P. O. C. Mch.

ruta-muraria, W. (dwarf spleenwort. W. Ju. ♃.) frond bipinnate at the base, simply pinnate at the apex, obtusely denticulate. Rocks. 1—2 i. W. Y. T. P. Mich.

montanum, W. (4) (W. Ju. ♃.) frond glabrous, bipinnate: leafets lanceolate, pinnatifid; divisions 2 or 3-toothed. 2 f. W. T.

17—2. As'ter. 49. 55. Ast. ton. sec-stim.

1. *Leaves entire.*

hyssopifolius, W. (star flower. W. w. y. p. Au. to Oc.) leaves linear-lanceolate, 3-nerved, punctate, acute: margin scabrous: branchlets level-top-corymbed, compact: rays about 5-flowered: involucre imbricate, twice as short as the disk. 12 to 24 i. high. *S.* Y. C.

solidaginoides, W. (5) (W. w. Au. ♃.) leaves linear-lanceolate, obsolete-3-nerved, entire, obtuse; margin scabrous: branches level-top-corymbed: flowers sessile, aggregate: rays 5-flowered: involucre shorter than the disk, imbricate: scales oblong, obtuse, close-pressed, sub-reflexed at the apex. About 2 feet high: scales of the involucre white, with green tips: rays long and white. *S.*

ledifolius, Ph. (6) (wood aster. O. y. w. S. and Oc. ♃.) leaves linear-lanceolate, tapering to the base, without nerves, roughish, revolute margin: branches corymbed: branchlets filiform, 1-flowered, nakedish: involucre lax, imbricate, twice as short as the disk: leafets very acute: rays about 20-flowered. A variety, *uniflorus*, (7) has a very simple stem, bearing but one flower. About a foot high; sometimes the leaves have a small indenture on each side.

rigidus, W. (8) (p. y. Au. ♃.) leaves linear, mucronate, sub carinate, rigid; margin rough-ciliate; the cauline leaves reflexed; the branch ones spreading, subulate: stem erect, somewhat branched above; branchlets 1-flowered, corymbed: involucre imbricate, twice as short as the disk: scales obtusish, carinate; rays about 10-flowered, reflexed. Hardly a foot high. *S.* N. H. C. T. Y. Mch.

linarifolius, W. (9) (W. p. y. Au. ♃.) leaves thick-set, nerveless, linear, mucronate, dotted, carinate, rough, stiff, those on the branches recurved: stem sub-decumbent: branches level-topped, 1-flowered: involucre imbricate, of the length of the disk. A little lower than the preceding species, and flowers smaller: stem rough, purplish. *S.* N.

graminifolius, Ph. (p. Au. ♃.) leaves narrow-linear, nerveless, punctate, glabrous, erect: terminal branchlets nakedish, 1-flowered: involucre lax, nearly equalling the disk. 6 i. T. N.

linifolius, W. (flax-leaved star-wort. W. S. ♃.) leaves linear, without nerves, dotted, rough, reflexed-spreading: branches level-top-corymbed, leafy: involucre imbricate, short: rays about equal to the disk. About 18 or 24 inches high. *S.* N. P.

subulatus, Mx. (sea aster. L. Au. ♃.) very glabrous, small-flowered: stem panicled: branches many-flowered: leaves linear-subulate: involucre cylindric: ligulate florets of the ray minute. Salt marshes. *S.* C. B.

foliolosus, A. (10) (Au. ♃.) leaves linear-lanceolate, tapering to both ends, acuminate: stem pubescent, panicled, erect: branches few-flowered: involucre imbricate: scales linear, acute, close-pressed. Flowers small; hardly distinct from the next species. *S.* P.

tenuifolius, W. (W. w. Au. ♃.) leaves linear-lanceolate, tapering to both ends: margins hispid: stem glabrous, branching, erect; branchlets 1-flowered: involucre imbricate: scales oblong, acute, lax. S. Y. C.

Aster. Gr. *astēr*, a star, from its radiated appearance. A large, neglected genus.

(1) trichomanoides, Mx. (2) trichomanes, Mx. (3) acrostichoides, Sw. (4) Adiantum nigrum, Mx. (5) Conyza linifolia, L. (6) nemoralis, A. (7) uniflorus, Mx. (8) linarifolius, in Bank's collection. (9) Inula linarifolia, N. (10) cordifolius, Mx.

dumosus, W. (O. w. y. Au. ♃.) leaves linear, glabrous; those of the branchlets are the shortest: branches panicled: involucre cylindric, closely imbricate. A variety called *violaceus*, has pale violet rays, and a pubescent stem. Another variety, *albus*, has white rays, and a glabrous stem. Flowers small. *S.* Y. N.

ericoides, W. (W. w-y. Au. ♃.) leaves linear, very glabrous; those of the branchlets subulate, approximate; cauline ones elongated: involucre somewhat scurfy: leaves acute: stem glabrous. Flowers small. *S.*

multiflorus, W. (O. w-y. Au. to Nov. ♃.) leaves linear, smoothish: stem very branching, diffuse, pubescent; branchlets one way: involucre imbricate; scales oblong, scurvy, acute. Probably a variety of the last. *S.* Mich.

paludosus. W. (W. y. Au. Nov. ♃.) leaves sessile, subulate, glabrous, with the margins scabrous: peduncles few, 1-flowered: involucre squarrose, the lower scales leaf-like. 12—18 i. *S.*

flexuosus, N. (1) (L. y. w-p. Au. ♃.) very glabrous: leaves subulate-linear, somewhat fleshy, sub-reflexed; stem slender, very branching; branches and branchlets spreading, bristle-form, 1-flowered: scales of the peduncles divaricate, subulate: involucre imbricate, scales close-pressed, acute. Resembles the last: flowers smaller. Salt marshes. *S.*

concolor, W. (W. r-b. Au. ♃.) leaves oblong-lanceolate, white pubescent both sides: stem very simple, erect, pubescent: raceme terminal: involucre imbricate, scales lanceolate, silky, close-pressed. About a foot high: ray and disk colored alike. *S.* Y. P.

cornifolius, M. & W. (W. w. Au. ♃.) glabrous: leaves oblong-ovate, acuminate, short petioled; margin rough: stem glabrous: panicle few-flowered; branches 2-flowered; involucre sub-imbricate.

humilis, W. (2) (W. w. Au. ♃.) leaves sub-rhomboid, oval-lanceolate, acuminate at both ends, sub-petioled, glabrous; margin hispid: corymb divergingly dichotomous, nakedish, few-flowered: involucre lax-imbricate: rays 8-flowered. About a foot high. Flowers large. *S.* P. T. O. Mich.

amygdalinus, Mx. (3) (O. w. S. ♃.) leaves lanceolate, tapering to the base, acuminate; margin rough: stem simple, level-top-corymbed: involucre lax-imbricate: scales lanceolate, obtuse. Rays large. *S.* Mch.

salicifolius, A. & W. (4) (r-b. Au. ♃.) leaves linear-lanceolate, sub-entire, glabrous: stem glabrous, panicle at the top: involucre lax-imbricate: scales acute, spreading at their tips. 4—6 f. Flower middle-sized. Y. T. O. N.

aestivus, W. (b. Ju. to S. ♃.) leaves lanceolate, sub-clasping, tapering to the apex; margin rough: stem branching from its base, erect, hispid; branchlets pilose: involucre scaly: scales lax, linear, acute, equal. About 2 feet high: the flowers resembling the last. Y. T.

nova-angliae, (O. b-p. Au. ♃.) leaves linear-lanceolate, pilose, clasping, auricled at the base: stem sub-simple, pilose, straight and stiff: flowers sub-sessile, terminal, crowded: scales of the involucre lax, colored, lanceolate, longer than the disk. In rich soil it grows 10 feet high: flowers large. *S.* Mich.

cyaneus, Hn. (5) (W. b-p. Au. ♃.) leaves linear-lanceolate, clasping, smooth: stem wand-like-panicled, very glabrous; branches racemed: scales of the involucre lax, lanceolate, equalling the disk, inner ones colored at the apex. 3—4 f. Flowers many and large. This is the handsomest of all asters. *S.* T. N.

phlogifolius. W. (6) (W. w. p. Au. ♃.) leaves lanceolate, heart-form, clasping, pubescent beneath, rough margin: stem very simple, pubescent: panicle terminal, lax, few-flowered: scales of the involucre lax, imbricate, lanceolate. From 18 to 24 inches high. Y. T.

2. *Leaves more or less cordate and ovate, serrate or toothed.*

undulatus, (7) (W. S. ♃.) stem leaves heart-oblong, clasping, undulate, scabrous, toothed near the summit: branches of the panicle expanding, few-flowered: involucre sub-squarrose. Flowers large. 3 f. *S.* C. N.

sagittifolius, Wedem. (b. ♃.) leaves lance-oblong, acuminate, sessile, serrate in the middle; radical ones oblong, heart-sagittate, serrate, petioled: stem glabrous, branching: scales of the involucre lax, imbricate, lanceolate. *S.*

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(1) sparsiflorus, Ph. (2) infirmus, Mx. divaricatus, W. cornifolius, L. probably a variety of cornifolius. (3) umbellatus, A. Inula amygdalina, N. (4) praealtus, Lb. (5) rubricaulis, Lb. spurius, W. nova-angliae, A. (6) amplexicaulis, Mx. (7) diversifolius, Mx. patens, W.

diversifolius, Mx. (1) (y. p. S. ♃.) leaves nearly entire, undulate, pubescent, sub-scabrous; lower ones cordate, ovate, with winged petioles: upper ones lance-oblong: panicle loose, the branches slender, racemose. 3 f. *S.* T. N. Mch.

paniculatus, A. (O. b-p. Au. to Nov. ♃.) leaves ovate lanceolate, sub-serrate, petioled, glabrous: radical ones ovate-heart-form, serrate, rough, petioled; petioles naked: stem very branching, glabrous; branchlets pilose: involucre lax, sub-imbricate. 2—4 f. Flowers smallish, numerous. *S.* Mch.

cordifolius, L. (W. w. S. ♃.) leaves heart-form, pilose beneath, sharp-serrate, petioled: petioles winged: stem panicled, smoothish: panicles divaricate: involucre lax, sub-imbricate. Flowers small. T. N. Mch.

corymbosus, A. (W. w. Au. ♃.) leaves ovate, sharp-serrate, acuminate, smoothish; lower ones heart-form, petioled; petioles naked: stem glabrous, level-top-corymbed above: branches pilose: involucre oblong, imbricate: scales obtuse, very close-pressed. 12—14 i. Flowers rather large. T. N. Mch.

macrophyllus, A. (W. w-b. Au. ♃.) leaves ovate, petioled, serrate, rough: upper ones ovate-heart-form, sessile; lower ones heart-form, petioled; petioles sub-margined: stem branching, diffused; involucre cylindric, closely imbricate: scales oblong, acute. 1—2 f. Flowers largish. *S.* T. N.

adnatus, (p.) scabrous; small leaved: leaves heart-oblong, acute, entire, adnate above the middle of the stem; radical ones oblong: branches elongated, about 1-flowered. Alabama.

3. *Leaves lanceolate and ovate, lower ones serrate.*

amplexicaulis, W. (2) (O. b. S. ♃.) leaves ovate-oblong, acute, clasping, heart-form, serrate, glabrous: stem panicled, glabrous; branchlets 1-2-flowered: scales of the involucre lanceolate, closely imbricate. Flowers middle-sized.

prenanthoides, W. (W. b. ♃.) leaves clasping, spatulate-lanceolate, acuminate, serrate in the middle, heart-form at the base: branchlets pilose; scales of the involucre lanceolate, scurfy. W. Y. P.

lævigatus, W. (O. r-p. S. to Nov. ♃.) leaves sub-clasping, broad-lanceolate, sub-serrate, smooth: stem very branching, glabrous: branchlets many-flowered: scales of the involucre lanceolate, lax, nearly equalling the disk. *S.* P. Y.

versicolor, W. (y-w. Au. ♃.) leaves sub-clasping, broad-lanceolate, sub-serrate, glabrous; radical ones serrate in the middle: stem very branching, glabrous; scales of the involucre lanceolate, lax, shorter than the disk. Flowers many and large, elegant. *S.* P. Y.

mutabilis, W. (p-y. Au. to Oc. ♃.) leaves sub-clasping: upper ones lanceolate, acuminate, entire; lower ones lanceolate, at the base narrow, serrate; branchlets wand-like: involucre shorter than the disk, lax: stem glabrous. Y. N.

lævis, W. (W. b-p. S. to Nov. ♃.) leaves sub-clasping, remote, oblong, entire, shining; radicle ones sub-serrate: branches simple, 1-flowered: involucre imbricate, the leafets somewhat wedge-form, acute, thickened at the apex: stem glabrous, angular. Y. V.

concinnus, W. (b-p. S. to Nov. ♃.) leaves lanceolate, somewhat clasping: lower ones sub-serrate, glabrous: stem simple, panicled at the top: involucre closely imbricate. P.

puniceus, (O. p. Au. to Nov. ♃.) leaves clasping, lanceolate, serrate, roughish: branches panicled: involucre lax, exceeding the disk, the leafets linear-lanceolate, sub-equal: stem hispid. A variety, *purpureus*, (3) seven feet: stem deep purple. Another variety, *rufuscens*, (4) tall; from green becoming redish. From 3 to 10 feet high: flowers large. Damp. *S.* O.

novi-belgii, (W. w-p. Au. ♃.) leaves sub-clasping, lanceolate, glabrous, rough at the margin; lower ones sub-serrate, branches sub-divided: involucre lax-imbricate, the leafets linear-lanceolate: stem terete, glabrous. Y. C. N.

bellidiflorus, W. (r. y. ♃.) leaves clasping, narrow-lanceolate, scabrous above, sub-serrate beneath: stem very branching: scales of the involucre lanceolate-spreading. C.

spectabilis, W. (b. Au. ♃.) leaves lanceolate, roughish, sub-clasping: lower ones serrate in the middle: branches corymbed: leafets of the involucre lax, foliaceous, somewhat wedge-form, acutish, scurfy. About 2 feet high: flowers large. P.

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(1) undulatus, W. tardifolius, Wr. (2) pennsylvanicus, Lb. (3) amoenus, Lb. (4) hispidus, Lb.

serotinus, W. (b. S. ♃.) leaves oblong-lanceolate, acuminate, sessile, glabrous; margin rough; lower ones serrate: branches corymbed, glabrous; branchlets 1-flowered: scales of the involucre lanceolate, acuminate, spreading. About three feet: flowers large. Y.

tardiflorus, W. (b. Oc. ♃.) leaves sessile, serrate, glabrous, spatulate-lanceolate, tapering to the base, deflected at the margin and both sides: branches divaricate: involucre lax, the leafets lanceolate-linear, sub-equal, glabrous. Flowers not middle size. Y.

blandus, Ph. (p. Oc. ♃.) leaves somewhat clasping, oblong-lanceolate, acuminate, serrate, glabrous: stem branching in a pyramid form: branches axillary; racemed; scarcely longer than the leaf: peduncles downy, not winged: involucre lax, sub-equal, shorter than the disk. Flowers largish. Canada.

acuminatus, Mx. (w. S. ♃.) leaves broad-lanceolate, narrow and entire at the base, unequally serrate above, long-acuminate: stem simple, flexuous, angular: panicle divaricately dichotomous: scales of the involucre loose, linear. Leaves large. A variety, called *elatior*, has a higher stem: panicles many-flowered and leafy. Another variety, *pumilus*, has a lower stem: corymb-few-flowered, naked, scarcely higher than the leaves. Commonly 12 inches high: and upwards; flowers middle size. Probably a variety of prenanthoides. *S.* P. W. N.

conyzoides, W. (1) (O. w. Ju. ♃.) leaves oblong, 3-nerved, narrow and acute at the base; upper ones sessile, sub-entire; lower ones petioled, serrate: stem simple, corymbed at the top: involucre cylindric, scurfy: rays 5, very short. About 20 inches high: flowers small.

nudiflorus, N. (r. ♃.) stem simple, smooth: leaves sessile, lance-ovate, sub-acuminate, sharply-serrate: upper side scabrous: corymb simple, few-flowered: peduncles hairy or naked, 1-flowered: involucre imbricate; scales ciliate.

radula, W. (w. S. ♃.) leaves lanceolate, serrate, acuminate, rugose, very rough: stem erect, angular, simple: corymb terminal: involucre imbricate: leafets lanceolate, obtusish, somewhat scurfy. Flowers mid-size. P.

strictus, Ph. (2) (y-r. S. ♃.) leaves sessile, narrow-lanceolate, serrate, rough: stem 1 or few-flowered above: scales of the involucre imbricate, close-pressed, oblong, acute, nearly equalling the disk. Four to seven inches high: flowers middle sized. P.

tradescanti, W. (3) (w-p. Au. ♃.) leaves lanceolate, serrate, sessile, glabrous: branches wand-like: involucre imbricate: stem terete, glabrous, 3 to 4 feet high: flowers small. Mich.

recurvatus, W. (4) (b. S. ♃.) leaves sessile, narrow-lanceolate, tapering to the base: lower ones serrate in the middle: stem branching, glabrous, recurvate: scales of the involucre lax, imbricate, linear-lanceolate, sub-equal. Resembles the last.

junceus, A. (r. Au. ♃.) leaves lanceolate-linear, sessile, glabrous; lower ones sub-serrate; those of the branchlets lanceolate: stem panicled, glabrous: branches wand-like: involucre imbricate. 2—6 f. *S.* Y.

dracunculoides, W. (5) (w. S. ♃.) leaves linear-acuminate, entire; lower ones linear-lanceolate, sub-serrate: branches corymbed: involucre imbricate: stem smoothish. About 3 or 4 feet high. *S.* Y.

miser, W. (W. w. S. ♃.) leaves sessile, lanceolate, serrate, glabrous: involucre imbricate; leafets acute: florets of the disk and ray equal: stem sub-villose. Y. O. C. T. Canada. Mich.

eminens, W. (y. r. S. ♃.) leaves lance-linear, acuminate, scabrous at the margin; lower ones sub-serrate: stem panicled: branchlets 1-flowered: involucre lax-imbricate, with lanceolate leafets. T. Mich.

simplex, W. (w. y. ♃.) leaves lanceolate, acuminate, scabrous at the margin; cauline ones serrate at the apex; those of the branches entire: stem glabrous, panicled at the apex: involucre lax-imbricate, with linear-subulate leafets.

polyphyllus, W. (w. y. r. ♃.) leaves linear, mostly entire; radical ones oblong, sub-serrate: stem very branching, hairy: involucre lax-imbricate. C.

lanceolatus, W. (w. p. Au. ♃.) leaves lance-linear, sessile, mostly entire, glabrous: lower ones lanceolate, sub-serrate: stem branching, diffuse, very glabrous; involucre imbricate, with lanceolate somewhat spreading leafets. C.

fragilis, W. (w. ♃.) leaves linear, acuminate, entire; radical ones oblong, serrate;

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(1) marylandicus, Mx. Conyza asteroides, L. (2) biflorus, Mx. (3) vimineus, Lb. (4) salicifolius, Lb. (5) artemisiflorus, Lb.

branches corymb-panicled: involucre imbricate, with close-pressed scales: stem very glabrous. 2 f.

collinsii, N. (W.) fine haired, rough: leaves uniform, wedge-oblong, serrate, tortuous-spreading: corymb compound: involucre cylindrical with close-pressed oblong scales: rays about 5-flowered. West Florida, Ware.

alatus, Aikin. (p. y. ♃.) involucre sub-ovate; scales linear acutish, reflex-spreading towards the apex: rays numerous, narrow: receptacle flat, sub-alveolate, naked: akenium oblong, minutely pubescent: egret pilose; hairs finely scabrous: leaves ovate, slenderly acuminate, tapering to the petiole, sharp serrate, scabrous above, glabrous and paler beneath; serratures sub-mucronate: upper leaves lanceolate, sub-entire; petioles winged, clasping: stem angled, flexuous, glabrous below, pubescent above: corymbed-panicle terminal, loose; peduncles bracted, about 1-flowered. Flowers large; rays lilac-purple, disk yellow, becoming brownish: stem sometimes decumbent: root fibrous: dark shady grounds, on borders of streams, &c. Height 12 to 20 inches.

shortii, Boot. (b. O. ♃.) flowers in a spreading panicle: leaves nearly glabrous above, scabrous and sparingly pilose beneath: radical leaves heart-oblong, pubescent when young, remotely and deeply crenate; cauline leaves mostly on long ciliate petioles, entire, cordate-lanceolate; floral leaves ovate and lanceolate, sessile minute and entire: stem branching above. Ohio and Ky. Riddell's catalogue.

oolentangiensis, Riddell. (b. O. ♃.) panicle terminal, elongated, few-flowered: leaves acuminate, scabrous above, rough and pubescent beneath: radical leaves long petioled, ovate, obliquely cordate, remotely serrate: lower cauline leaves lanceolate, remotely serrate, on winged petioles; upper leaves lanceolate, half clasping, entire: stem simple, strigose. Oolentangy river. O.

Exotic.

chinensis, (china aster. ☉.) leaves ovate, thickly toothed, petioled; cauline ones sessile, at the base wedge-form; floral ones lanceolate, entire: stem hispid: branches 1-flowered: involucre foliaceous. A variety has very full flowers, various-colored, and very short rays. Cultivated.

Southern.

tortifolius, Mx. (Au. ♃.) leaves cuneate, obovate, acute, entire pubescent, twisted, expanding: flowers nearly sessile, aggregate: scales of the involucre linear-lanceolate, close-pressed. 2 f.

grandiflorus, W. (p. y. Oc. ♃.) leaves sub-clasping, linear, subulate, rigid reflexed, with the margin ciliate and hispid: stem hairy; branches 1-flowered: involucre squarrose; the scales linear-lanceolate. 2—3 f.

exilis, E. (p. y. S. ♃.) very glabrous: stem slender, tall, somewhat branched: leaves very long, linear, subulate: head in racemes: scales of the involucre lance-linear, half as long as the ray. 4—5 f.

racemosus, E. (p. y. S. ♃.) leaves lance-linear, sub-pubescent beneath, margin scabrous: branches slender, long: heads nearly sessile crowded towards the summit of the branches. 2 f.

squarrosus, W. (b. y. S. ♃.) leaves very numerous, sessile, ovate, acute, reflexed, rigid, margin hispid: stem branching, hairy: branches 1-flowered: scales of the involucre lanceolate, hairy, loose. 2 f.

reticulatus, Ph. (w. Au. ♃.) leaves sessile, oblong, lanceolate, acute at both ends, hoary and tomentose, 3-nerved, reticulately veined beneath: flowers racemed: scales of the involucre very acute. 3 f.

virgatus, E. (b-p. S. ♃.) leaves lance-linear, clasping, very glabrous: stem sub-branched: branches virgate, erect: heads racemose: scales of the involucre very acute, slightly squarrose. 3—4 f.

carolinianus, Wr. (W. p. Oc. ♃.) stem shrubby, flexuous, much branched, pubescent: leaves sessile, oblong-lanceolate, tapering to each end: scales of the involucre lance-linear, very pubescent, sub-squarrose. 10—12 f.

surculosus, Mx. (p. y. Oc. ♃.) stem simple, pubescent towards the summit: leaves ob-lanceolate, acute, sub-serrate, scabrous above: upper ones small: flowers few, large: scales of the involucre oblong, ovate, reflexed, very pubescent. 12—18 i.

discoideus, E. (p. S. ♃.) stem erect, sub-villose: leaves spatulate-ovate, acute, serrate, hairy, pale beneath: scales of the involucre subulate, villose, loose, sub-squarrose; florets of the ray none. 2—3 f.

scaber, E. (p. y. S. ♃.) lower leaves petioled, oblong, cordate, acute, entire; upper ones sessile, clasping, lance-ovate, tapering to an acute point; all the leaves scabrous, undulate: panicle loose, long; the branches racemose. 3 f.

dichotomus, E. (w. p. y. Oc. ♃.) leaves sessile, oval, obtuse, pubescent: corymb sub-dichotomous: branches naked, long. 2 f.

obovatus, N. (w. y. M. ♃.) leaves sessile, oval, or obovate, obtuse, sub-rugose, very pubescent: corymb paniculate: scales of the involucre closely imbricate. 3 f.

canescens, Ph. (1) (W. p Au. ♃.) white pubescent: leaves linear: panicle corymbed, very branching, leafy: involucre imbricate, very acute, longer than the disk.

pauciflorus, N. (W. w. Au. ♃.) stem simple, 3 to 6-flowered: leaves linear, smooth, those of the stem subulate, and somewhat clasping: peduncles axillary and terminal, about 1-flowered: involucre and peduncle viscidly pubescent. On the margin of salt springs. 10 i.

montanus, N. (W. A. p-b.) leaves lance-linear, sessile, entire, silk-villose, obsoletely 3-nerved: stem erect, slender: branches 1-flowered: involucre hemispherical, with lance-linear, acute, erect leafets. Mich.

oblongifolius, N. (W. p. ♃.) stem and leaves finely scabrous: leaves mostly lance-oblong, somewhat clasping, not hairy: stem with sub-fastigiate few-flowered branches: involucre hemispherical, with squarrose, acute, oblong-linear leafets. 1 f.

sparsiflorus, Mx. ( ) sub-glabrous: leaves linear, entire, reflexed: stem slender, much branched: branches expanding, setaceous, 1-flowered: scales of the involucre, close-pressed. L.

heterophyllus, W. (W. ♃.) leaves glabrous: cauline ones ovate, sub-cordate, acuminate, deeply serrate, entire at the apex: those of the branches oblong ovate, sub-serrate; those of the branchlets lanceolate, minutely reflex spreading: stem panicled, glabrous: involucre closely imbricate.

adulterinus, W. (W. y. p. ♃.) leaves clasping, lanceolate; lower ones sub-serrate, glabrous; those of the branches linear, squarrose: involucre squarrose, shorter than the disk; scales wedge-linear.

peregrinus, Ph. (W. p-b. ♃.) leaves sessile, remote, lance-oblong, gradually acute, glabrous: stem erect, sub-simple, glabrous, hirsute towards the top, and 1 to 3-flowered at the summit: scales of the involucre lance-linear, villose, very acute, lax, of the length of the disk: rays numerous.

gracilis, N. (W. b. ♃.) leaves lance-oblong, remotely gash-serrate, acute, somewhat clasping, nearly smooth, with scabrous margins: stem minutely hairy, corymbed at the top: peduncles filiform, 2 and 3-flowered; lateral pedicels longer: involucre cylindric, squarrose-imbricated, with linear-oblong, sub-acute scales. Rays about 12, longer than the involucre. 1 f.

albus, N. (2) (W. w. Au. ♃.) simple: flowers fastigiate-corymbed: peduncles (flower-bearing branches) nearly naked, one-flowered: leaves lance-oblong, entire, scabrous, attenuated below. 1 f.

16—10. Astrag'alus. 93. Leg. nut. ape. asc. gum.*

secundus, Mx. (3) (one sided milk vetch. A. p. Ju. ♃.) caulescent, procumbent: leafets ovate, pubescent: spikes peduncled: legumes one-way, straight, accuminate both ends, pedulous. Canada.

canadensis, W. (woolly milk vetch. W. y. Ju. ♃.) caulescent, diffuse: leafets (21) glabrous both sides: legume sub-cylindric, mucronate. On the islands near Troy. 30 i. S. P. Y. T. R. Mich.

purshii, H. (y. J. ♃.) very hirsute: stem short, diffused: stipule lanceolate, acuminate: leafets 6 to 8-pairs oblong: peduncles half as long as the leaves: flowers lax head racemed, spreading; bracts linear-subulate, twice as long as the pedicels: calyx long membranaceous: wings tapering and equalling the banner: germ sub-sessile, linear, very hairy. R.

drummondii, H. (y. & w. ♃.) erect: stem furrowed: stem leaves and peduncles beneath with short hairs: stipules ovate and very acuminate: leafets 13 to 15-paired, oblong, obtuse, tapering into the petiole: peduncles longer than the leaves: racemes

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Astragalus. Gr. *astragalos.* This was a name given by the Greeks to one of their leguminous plants, but it is not known to which.

(1) biennis, N. (2) Inula, N. (3) labradoricus, Hk.

*Gum tragacanth is produced from some species.

long lax: bracts subulate, longer than the pedicels: calyx black-hirsute: legumes stiped, one-sided, cylindric, a little falcate. A.

alpinus, Ph. (1) (A. p. Ju. ♃.) caulescent, procumbent: flowers pendulous, racemed: legumes acute at both ends, hairy. R. Canada.

pauciflorus, Hk. (W. p.) decumbent, hoary, pressed-pilose: stipules opposite, lower ones entire: leafets in 3 to 5 pairs, oblong, acute: peduncles a little shorter than the leaves, 2 to 4-flowered: flowers small in lax racemes: bracts pedicelled: teeth of the white-hairy calyx equalling the tube. Rocky Mt. Drummond.

adsurgens, Hk. (W.) elongated, prostrate or ascending, somewhat glabrous: leafets in 8 to 12 pairs, oblong: stipules ovate, acuminate, membranaceous: peduncles longer than the leaves: spikes oblong: flowers erect; banner one third longer than the wings: legumes straight, erect, somewhat 3-sided. Rocky Mountains, and west of it.

succumbens, Doug. (W.) hirsute in all parts: stem procumbent, flexuose, ramose: stipules small, acuminate: leafets in 5 pairs, obovate: racemes capitate: legumes falcate. West of Rocky Mt. Flowers large.

diaphanus, Doug. (W.) prostrate, diffuse: leafets in 5 to 9 pairs, obovate: flowers capitate, lax: bracts minute, acuminate: legumes falcate, sub-reflexed, diaphanous. West of Rocky Mt. Flowers small.

lentiginosus, Doug. (W.) prostrate, sub-glabrous: leafets 8-paired, obovate: legumes ovate, acuminate, membranaceous, curved and inflated at the base. Rocky Mt. and west of it.

inflexus, Doug. (W.) diffuse, prostrate, downy-villose: stem flexuose: leafets 9 or 10 paired, obtuse. legumes ovate, downy, curved. West of Rocky Mt.

glareosus, Doug. (W. b-p.) depressed, downy: stem short (5 inches): leafets linear-oblong, in 6-pairs: calyx long-cylindric, with black hairs. West of Rocky Mountains. Flowers large.

laxmanni, (2) (W. b. J. ♃.) stem diffuse and ascending, grooved: cauline bracts membranaceous, acuminate: leafets sub-pubescent, oblong, 6 to 8 pairs: peduncles axillary and terminal, much longer than the leaves, thick grooved, in sub-oval crowded spikes: bracts acuminate: legumes oblong, pubescent when young. 1 f. R.

caryocarpus, H. (p. ♃.) stem many-edged, prostrate and ascending, sub-hirsute with close-pressed hairs: stipules distinct, ovate acute: leafets 9 to 12 paired, oval: peduncles shorter than the leaves: racemes capitate, lax: legumes inflated-nut-form, ridgy, mucronate, glabrous, many-seeded: calyx densely hirsute. A.

mollissimus, T. & J. (W. y-w. ♃.) almost stemless, erect, silk-downy: stipules not attached to the petioles, opposite to the leaves: leafets 11 to 14 pairs, ovate-oblong, mucronate: peduncles larger than the leaves: flowers in spikes, erect: legumes oblong, curved, glabrous.

leptophyllus, N. (Y. J. ♃.) erect glabrous: leafets linear, remote: racemes oblong: peduncles longer than the leaves: legumes glabrous. R.

mortoni, N. (y. ♃.) sub-glabrous, erect: leafets 6 to 8 pairs, oblong-obtuse: racemes dense-flowered nodding, peduncled, about equalling the leaves: germs villose. R.

glaber, Mx. (w. Ap.) caulescent, glabrous: leafets numerous, small, oval, slightly fringed: spikes 3 to 6-flowered, on long peduncles: pods distant, terete, incurved. 2 f.

obcordatus, E. (L. w.) glabrous: leafets small, 15 to 19 in number, obcordate: peduncles long, bearing 8 to 12 flowers at the top. Stem decumbent?

galegaoides, N. (W. w.) stem sub-erect: leafets about 21, lance-oblong, sub-pubescent beneath: peduncles axillary, longer than the leaves: spike crowded: flowers pedicelled, one-sided: legumes stiped, pendulous, 3-sided, inflated, smooth: calyx hairy, with subulate segments: strong-scented. The *racemosus*, Ph. 2 f.

hypoglottis, (W. M.) stem procumbent: leafets oblong: spikes ovate, peduncled, longer than the leaves: legumes erect, ovate, channelled. Perhaps a northern plant. Red River.

vaginatus, Dc. (p. & w.) erect, pubescent: stipules united together and opposite: leafets lance linear: peduncles longer than the leaves: flowers densely spiked, nodding: legumes linear, straight. A.

gracilis, N. (W. M. ♃.) pubescent: stem slender, erect: leaves sub-sessile; leafets oblong-linear, 13 to 21, remote: racemes peduncled, longer than the leaves: legume very short, nodding, oval-ovate, somewhat 3-sided, hairy, 1-celled: teeth of the calyx minute. 2 f. Nuttall says it is the *tenellus* of Pursh, which is called Ervum multiflorum by the same author in one place, and Dalea parviflora in another.

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(1) Phaca, Hk. (2) adsurgens? Hk.

micranthus, N. (W. b. M.☉. ♃.) decumbent: leafets oval, emarginate, glabrous: peduncles about 2-flowered, longer than the petioles: legumes falcate, 2-keeled, glabrous: seeds truncate. 7 i.

goniatus, N. (p.) decumbent, nearly glabrous: stem angular: leafets 7—10 pairs, linear oblong, obtuse: stipules linear-lanceolate: peduncles longer than the leaves: spikes capitate: bracts oblong, shorter than the villous calyx: teeth of the calyx subulate, as long as the tube: legumes oblong, triquetrous, bicarinate, clothed with long white hairs, a little longer than the calyx. 4 i. Legume 4 i. long. Rocky Mountains.

missouriensis, N. (M. v.) stemless: leafets lance-ovate, silky-silvery: scapes equalling the leaves: flowers in heads: bracts lanceolate, of the length of the silky calyx. Missouri. Oxytropis argentata is a synonyme.

argophyllus, N. (p.) villous with long white silky hairs: cespitose: stem short and decumbent: stipules lanceolate, acuminate, membranaceous: leafets 7—8 pairs, lanceolate-ovate and acute; or obovate and obtuse: peduncles shorter than the leaves: racemes short, loose, somewhat capitate, 3—8 flowered: bracts long and subulate: flowers pedicellate: calyx tubular; teeth subulate, about one third the length of the tube: legume hirsute, oblong, with a broad curved point, transversely wrinkled, the lower suture slightly introflexed. Rocky Mountains.

shortianus, N. (w.) stemless, canescent, with appressed shining hairs: leafets 5—7 pairs, roundish-elliptical or ovate, very obtuse: stipules ovate, obtuse: peduncles shorter than the leaves: raceme oblong: calyx clothed with white hairs, with rather long subulate teeth: legume large and turgid, cymbiform, with a short curved point, black and transversely wrinkled. Rocky Mountains.

plattensis, N. (p.) stems numerous, nearly prostrate, hirsute with whitish spreading hairs: stipules broadly ovate, acute: leafets 8—12 pairs, elliptical or oblong: peduncles shorter than the leaves: racemes short: bracts about twice as long as the pedicels: calyx pilose, with darkish hairs, oblong: legume thick and fleshy, broadly ovate, acuminate, somewhat compressed, pilose. Plains of the Platte. A. caryocarpus Torr. is a synonyme.

trichocalyx, N. ( ) stems numerous, decumbent, somewhat pilose, with appressed hairs: stipules lanceolate: leafets 10—16 pairs, elliptical-oblong, obtuse: peduncles about the length of the leaves: racemes short and crowded: bracts a little longer than the pedicels: calyx densely villose, with mostly whitish hairs; the teeth subulate, scarcely half the length of the tube: legume thick and somewhat fleshy, glabrous, finely wrinkled transversely. Arkansas, Texas.

pachycarpus, T. ( ) procumbent, diffuse, canescently hirsute with appressed hairs: stipules ovate, acuminate: leafets 8—16 pairs, elliptical and oblong-obovate: peduncles much shorter than the leaves: bracts lanceolate, scarcely as long as the short pedicels: legumes ovate, coriaceous, very turgid and dilated laterally, somewhat curved, with a short beak, inflexed at each suture, 2-celled, slightly wrinkled transversely. 6—10 i. branched. Arkansas.

distortus, T. (May. b.) scarcely pubescent, prostrate: leafets 8—12 pairs, oblong or obovate, sometimes elliptical, usually emarginate: peduncles longer than the leaves: spikes roundish or oblong, 10—20-flowered, loose: calyx clothed with blackish hairs; the teeth broad, acuminate, about half the length of the tube: legumes oblong, somewhat inflated, often somewhat twisted, abruptly pointed, scarcely reticulated; upper suture slightly inflexed; the lower one deeply sulcate. 8 to 15 i. Arkansas, Texas.

leptocarpus, T. (April. p-b.) erect or assurgent, branched from the base, somewhat pubescent: leafets 6—8 pairs, cuneate-elliptical, retuse: stipules lanceolate, acuminate; peduncles longer than the leaves: spikes ovate, few-flowered, loose: bracts subulate, rather minute: calyx campanulate; the teeth subulate, shorter than the tube: legumes linear, very narrow, elongated, membranaceous, glabrous, 2 celled; 11—12-seeded 1 f. Texas.

reflexus, T. (p.) assurgent: stem and lower surface of the leaves hairy: leafets 6—7 pairs, cuneate-obovate, emarginate: stipules ovate-lanceolate, acute: peduncles longer than the leaves: spikes ovate, few-flowered; the flowers spreading: bracts minute: calyx campanulate; the teeth subulate, longer than the tube: legumes ovate-oblong, rather acute, reflexed, thick and coriaceous, corrugated transversely, glabrous, 2-celled: the upper suture nearly straight and prominently ridged, the lower deeply reflexed; cells 3—4-seeded. 1 f. Texas.

multicaulis, N. (w-p.) canescent: stems much branched from the base and cespitose: leafets 3—6 pairs, mostly obovate, obtuse: stipules ovate, membranaceous: racemes 3—5-flowered, shorter than the leaves: bracts subulate; calyx campanulate; the teeth broadly subulate, as long as the tube: legumes oblong, very hairy, much curved, acute, inflated, partly 2-celled, the upper suture sulcate. 4—5 i.

o'reganus, N. ( ) dwarf and decumbent, canescent with appressed hairs: leafets 17—21, broadly obovate or obcordate: stipules membranaceous: peduncle terminal, very short: spike somewhat capitate: bracts linear, more than half the length of the blackish villose calyx: teeth of the calyx about one-third the length of the tube. 6 i. Rocky Mountains.

flavus, N. (y.) somewhat canescent with appressed hairs, diffusely branched and decumbent: leafets 2—5 pairs, oblong or lanceolate-linear, rather acute, nearly glabrous above: stipules united opposite the leaves: peduncles longer than the leaves: spikes at length elongated and loose: calyx campanulate: the teeth subulate, nearly as long as the tube: legumes mostly included in the calyx, oblong-ovate, much compressed contrary to the sutures, with a broad and rather deep furrow below, partly 2-celled. 6—8 i. Rocky Mountains.

spicatus, N. ( ) pubescent, erect: leafets about 10 pairs, elliptic-oblong, obtuse: stipules ovate, acuminate: peduncles rather longer than the leaves: spikes oblong: bracts ovate, about the length of the pedicels: flowers reflexed: teeth of the calyx short, the upper ones widest: legumes cylindrical-oblong, terete, pubescent, with a short, subulate point. Rocky Mountains.

tristis, N. ( ) somewhat pubescent, dwarf and decumbent: leafets 8—10 pairs, obovate-oblong, glabrous above: stipules ovate-lanceolate: peduncles stout, shorter than the leaves: spikes oblong, dense, the flowers reflexed: bracts oblong-lanceolate, nearly as long as the blackish villose calyx: teeth of the calyx short, triangular: ovary villose, straight. Rocky Mountains.

leucophyllus, T. ( ) canescent, erect, tall: leafets 14—18 pairs, oblong-linear, rather acute: stipules small, subulate: peduncles twice as long as the leaves: spikes oblong, dense; the flowers erect-spreading: bracts subulate, a little longer than the pedicels: teeth of the calyx subulate, about one-third the length of the tube. California.

Exotic.

glaux, (milk-vetch. ☼.) caulescent, diffuse: the little heads peduncled, imbricate, ovate: flowers erect: legume ovate, callous, inflated.

depressus, (trailing vetch. ♃.) sub-caulescent, procumbent: leafets obovate: raceme shorter than the petiole: legume terete, lanceolate, reflexed.

16—10. ASTROPHIA. 93. Legu. ape. ant. nut.

littoralis, N. (♃.) silky pubescent: leaves pinnate small; leafets in 2 or 3 pairs, linear-spatulate: racemes about 5-flowered: seeds globose, brown.

3—2. ATHEROP'OGON. 10. Gram. far. ton.

apludoides, M. (1) (hair-beard. W. S. ♃.) spikes short, numerous, (20 to 40,) reflexed downwards: culm terete, glabrous, geniculate: leaves hairy at the base: sheaths hairy. 1 f. *S.* P. T. Mich.

oligostachyum, N. (W. ♃.) spikes 2 or 3, sub-terminal, many-flowered: glumes and paleas pilose; outer palea 3-awned, the 2 lateral awns shorter and arising near the middle of the valve—neutral valve 3-awned. 10 i. *S.*

Athyrum, ASPIDIUM.

12—12. ATRAG'ENE. 61. Ran. acr- cau. poi—.

americana, Sims. (2) (false virgin-bower. b-p. M. ♃.) stem climbing, 6-angled: leaves in fours, ternate, with climbing petioles: leafets glabrous, heart-ovate, acuminate: carpels caudate, with awns plumose? T. N.

Atheropogon. Gr. *athēr*, a bristle, and *pogon*, a beard, its awns being very scabrous.

Atragene. Gr. *Athragene*, a name adopted by Theophrastus for our Clematis vitalba. De Candolle.

(1) Chloris curtipendula, Mx. (2) pennsylvanica, M. Clematis, verticillaris, Dc.

columbiana, N. (b. Mar.) peduncles 1-flowered: leaves opposite, triple-gashed; leafets ovate, acute, obsoletely crenate: divisions of calyx ovate acuminate, with stamens about twice as long. R.

5—2. ATRE'MA. 60. Umb. sto. nar. if nau.

americana, (1) (W.) stem furrowed: leaves many-cleft into linear divisions: umbels 5 to 8-rayed. Red River.

5—2. A'TRIPLEX. 29. Chen. nut. ton.

halimus, W. (orache. ♄.) leaves alternate or opposite, oblong-sub-rhomboid, entire. Y.

hortensis, (garden orache. Ju. ☉.) stem erect, herbaceous: leaves triangular, toothed of an uniform color: calyx of the fruit ovate, netted, entire. 3 f. Y. C.

laciniata, W. (L. J. ☉.) stem erect, herbaceous: leaves triangular, deep-toothed, white beneath: calyx of the fruit rhomboid, 3-nerved, denticulate. S. C.

arenaria, N. (2) (sand orache. Ju. ☉.) stem herbaceous, spreading: leaves entire, oblong-ovate, sub-sessile, white-silvery beneath; upper ones acute or acuminate: flowers axillary, glomerate: calyx of the fertile flowers muricate, dentate, retuse. Stem reddish, angular, very branching; about a foot high. S. Y.

patula, (spreading orache. W. Ap. ☉.) stem herbaceous, spreading: leaves triangular-hastate, smooth above, irregularly toothed; upper ones entire: fruit bearing calyx sub-muricate on the sides. Perhaps a variety of *laciniata*, T. S. C. B. N.

hastata, W. (Ju. ☉.) stem erect, herbaceous: leaves triangular-hastate, deeply toothed, uniform colored: calyx of the fruit sinuate-toothed: middle tooth elongated. Perhaps introduced.

Southern.

angustifolia, (L. J. ☉.) stem herbaceous, divaricate: lower leaves hastate, slightly toothed; upper ones lanceolate, entire: calyx of the fruit lance-hastate, entire.

canescens, N. (W. M.) dioecious, dusty-whitish; stem shrubby, diffuse: leaves oblong-linear, entire, obtuse, tapering towards the base: young leaves acute. 3 f. Calligonum canescens of Pursh.

argentea, N. (W. ☉.) stem herbaceous, erect: leaves deltoid, sub-cordate, sub-obtuse, entire, white-dusty and shining both sides: fruit somewhat peduncled, oval, compressed, obtuse, acutely toothed at the margin. 1 f.

5—1. A'TROPA. 38. Solan. poi. r. f. & h. nar+.

Exotic.

belladonna, (deadly nightshade. w-y. ♃.) stem herbaceous, brachiate: leaves ovate, entire. Berries black and poisonous.

3—2. AULAXAN'THUS. 10. Gram. far-ton.

Southern.

ciliatus, E. (S. ♃?) stem erect: leaves linear, ciliate: panicles slender, compact. Sand. 2 f.

rufus, E. (Au.) stem erect: leaves very glabrous: panicle large, slightly compressed: hairs on the glumes reddish yellow. Perhaps a variety of *ciliatus*, E.

Aulaxia, AULAXAN'THUS.

3—2. AVE'NA. (3) 10. Gram. far-ton.

praecox, (dwarf oats. J. ☉.) panicle in a dense raceme: florets as long as the glumes: awn exsert: leaves setaceous. Sand. 4 i. E. Ithaca.

Atrema. Gr. *a*, without, and *trema*, a hole, or *atrema*, quietly, tranquilly.

Atriplex. Lat. *atriplex*, from its dark color.

Atropa. From *Atropos*, one of the three fates, from its deadly qualities.

Aulaxanthus. Gr. *aulax*, a furrow, and *anthos*, flower.

Avena. Lat. *aveo*, to covet, because cattle are so fond of it.

(1) Coriandrum americanum, N. (2) patula? M. (3) See Danthonia.

mollis, Ph. racemes somewhat in a compact spike: glumes 2-flowered; flowers awned and beardless—awns straight, of the length of the flowers: leaves and culm with soft pubescence.

striata, Ph. (A.) panicle compact, few-flowered; glumes 5-flowered; flowers longer than the glumes, almost beardless: valves outwardly striate, with a long awn upon the back: seed naked.

Exotic.

sativa, (oats. J. ⊙.) panicled: glumes 2-seeded: seeds smooth, one of them awned. First discovered in the island of Juan Fernandez. A variety is awnless, and has black seeds.

sterilis, (animated oats. Ju. ⊙.) panicled: glumes about 5-flowered: florets hairy, the middle ones awnless. When dry, the heads are set in motion, if moistened, by the untwisting of the awns.

elatior, (J. ♃.) panicle sub-contracted, nodding: glume 2-flowered: florets perfect, sub-awnless, staminate awned: culm geniculate, glabrous: root creeping. Introduced.

13—2. AVICEN'NIA. 45. Polom. ton.

Southern.

tomentosa, W. (mangle. ħ.) leaves oblong, obtuse, tomentose beneath. Flowers in sub-sessile clusters. 20 f.

5—1. AZA'LEA. 50. Eric. diu. dem.

procumbens, W. (trailing honeysuckle. r. Ju. ħ.) leafy-flowered: branches diffuse, procumbent: leaves opposite, elliptic, glabrous: margin revolute: corol bell-form, glabrous: filaments enclosed, equal. Flowers small: resembles Ledum buxifolium: all the other species resemble the Rhododendron, to which Don annexed them. 3—4 i. N. White Mts.

calendulacea, Mx. (r. & y. Ap. ħ.) sub-naked-flowered: leaves oblong, pubescent both sides, and when full-grown become rough-haired: flowers abundant, large, not viscous: teeth of the calyx oblong: corol with a hirsute tube shorter than its divisions. A variety, *flammea*, has a flame-colored flower; another, *crocea*, has a saffron-colored flower. 4 f. P.

canescens, Mx. (A. N. r. J. ħ.) sub-naked-flowered: leaves obovate-oblong, pubescent on the upper side, and downy beneath; nerves not bristle-bearing: flowers not viscous: tube of the corol scarcely shorter than its divisions: teeth of the calyx very short, round-obtuse: stamens scarcely exsert. *S.* Catskill mountains.

arborescens, (r. ħ.) flowers leafy: leaves obovate, sub-obtuse, smooth both sides, glaucous beneath, ciliate on the margin: nerve almost smooth: flowers not viscous; tubes longer than the segments: calyx leafy, with oblong acute segments: filaments exsert. 15 f.

hispida Ph. (A. w. r. Ju. ħ.) flowers leafy: branches straight, very hispid: leaves long-lanceolate, hispid above, smooth beneath, glaucous both sides, nerve bristly beneath: margin ciliate: flowers very viscous: tube scarcely longer than the segments: teeth of the calyx oblong, rounded: filament exsert. 12 f.

nudiflora, W. (1) (early honeysuckle, pinxter blomachee. O. r. M. ħ.) sub-naked-flowered: leaves lanceolate-oblong, or oval, smooth or pubescent, uniform-colored: nerves on the upper side downy, and beneath bristly: margin ciliate: flowers abundant, viscous; their tubes longer than their divisions: teeth of the calyx short, oval, sub-rounded: stamens very much exsert. A variety, *coccinea*, has scarlet flowers and lanceolate leaves; another *rutilans*, has deep-red flowers and minute calyx; another, *carnea*, has pale-red flowers, with red bases and leafy calyx: another, *alba*, has white flowers, with a middling calyx: another, *papilionacea*, has red flowers, with the lower divisions white, calyx leafy; another, *partita*, has flesh-colored flowers, 5-parted to the base: another, *polyandria*, has rose-colored flowers, with from 10 to 20 stamens. Woods. 2—6 f.

Avicennia. In honor of Avicenna, an Arabic physician of repute.

Azalea. Gr. *azaleos*, dry, from its residence in dry and sandy situations, or the brittle dry nature of its wood.

(1) periclymenoides, Mx.

nitida, (swamp honeysuckle, swamp pink. w. J. ♄.) leafy-flowered: branches smoothish: leaves few, oblanceolate, sub-mucronate, leathery, glabrous both sides, and the upper side shining: nerve bristle-bearing beneath: margin revolute-ciliate: flowers viscous; tube a little longer than the divisions: calyx very short: filaments exsert. Leaves dark-green. Swamps. C. Y.

viscosa, W. (white honeysuckle. W. w. J. ♄.) leafy-flowered: branches hispid: leaves oblong-obovate, acute, both sides glabrous and one-colored: nerve bristle-bearing; margin ciliate: flowers viscous: tube twice as long as the divisions: teeth of the calyx very short, rounded: filaments scarcely longer than the corol. Flowers very sweet-scented. 5 f. B. N.

glauca, Lk. (fragrant honeysuckle. w. J. ♄.) leafy-flowered: branchlets hispid: leaves oblanceolate, acute, both sides glabrous, and glaucous beneath; nerve bristle-bearing, margin ciliate: flowers very viscous; tube of the corol twice as long as its divisions: calyx very short: filaments about equal to the divisions of the corol. Rather lower than the other species: flowers abundant. Perhaps a variety of *viscosa*. *S.* P.

Southern.

bicolor, Ph. (r. w. M. ♄.) naked flowered: leaves obovate, covered on both sides with fine whitish hairs; the nerve not bristly: flowers small, not viscid; the tube scarcely longer than the segments of the corol: calyx very short; one of its segments narrow, and 4-times longer than the rest: filaments longer than the tube: smaller branches hairy and hispid. 2—8 f.

21—1. AZOL'LA. 5. Fili. sec-sti.

caroliniana, (W. ☼.) leaves distichous, imbricate, ovate-oblong, obtuse, spreading. Floating leaves, reddish beneath. Lake Ontario, Cayuga Marsh.

B.

17—2. BAC'CHARIS. 55. Inu. ton. e. feb.

halimifolia, Mx. (groundsel tree. w. S. ♄.) leaves obovate, gash-toothed above: panicle compound, leafy: fascicles peduncled. The whole shrub covered with white powder. Sea coast, and river alluvion. 6—12 f. *S.* Y.

Southern.

angustifolia. Mx. (L. S.) very glabrous: leaves linear, very entire: panicle compound, many-flowered. 8—10 f.

sessiliflora, Mx. (S.) leaves smooth, cuneate-obovate, toothed near the summit: heads axillary, sessile, scattered: scales of the involucre rufous at the tips. 3—5 f.

17—3. BALDUIN'A. 55. Inu. ton. sec-sti.

Southern.

uniflora, N. (y. Ju. ♃.) stem 1-flowered, simple, pubescent: leaves narrow, obovate, entire: egret as long as the akenium. 2 f.

multiflora, N. (y. S. ♃?) stem branching, many-flowered, glabrous: leaves linear; leaves of the involucre acuminate: egret short, cup-form. 30 i. Elliott considers these two species as belonging to different genera—the latter he proposes to call Actinospermum.

13—1. BALLO'TA. 42. Labia. stim. ton.

Exotic.

nigra, (false motherwort, false hoarhound. ♃.) Naturalized, and grows wild about New Haven. Leaves heart-form, undivided, serrate: sepals acuminate. Ives. C.

Azolla. Gr. *azo*, to make dry, *ollo*, (*ollumi*) to kill; in allusion to its withering suddenly, when removed from a marsh, &c.

Baccharis. From Bacchus, to whom the original plant (probably by Dioscorides) was dedicated.

Balduina. In honor of Dr. Wm. Baldwin, of Savannah, Geo.

Ballota. Gr. *ballŏ*, to send forth, and *ous*, (*ŏtos*) the ear, its sprouts resembling two ears.

Balsamorhiza, ESPELETIA.

17—4. BALTIMO'RA. 55. Inu. sec-sti.

Southern.

recta, W. (y. Ju. ⊙.) scabrous: stem dichotomous: leaves opposite, ovate, acuminate, serrate, petioled. It is doubtful whether this grows north of the West India Islands.

10—1. BAPTI'SIA. V. (1) 93. Leg. r. & h. asc. cat. eme. dye.

tinctoria, (wild indigo. O. y. Ju. ♃.) very glabrous and branching: leaves ternate, sub-sessile; leafets wedge-obovate, round-obtuse, (becoming black in drying:) stipules obsolete, oblong, acute, much shorter than the petioles: racemes terminal: legumes ovate, long-stiped. 2—3 f. *S.* Mich.

cærulea, Mx. (2) (spiked indigo weed. W. b. Ju. ♃.) glabrous: leaves ternate, short-petioled; leafets oblong-wedge form, obtuse: stipules lanceolate, acute, twice as long as the petioles: racemes spiked, elongated: legumes acuminate. *S.* C. H. Canandaigua.

alba, W. (W. w. J. ♃.) branches spreading: leaves ternate, petioled: leafets lanceolate, wedge-form at the base, obtuse, mucronate, glabrous: stipules subulate, shorter than the petioles: racemes terminal. 2 f. D. Mich.

leucophaea, N. (r-y.) Description not received. See Addenda. Mich.

Southern.

perfoliata, M. (y. Ju. ♃.) very glabrous: leaves perfoliate, oval, entire, glaucous: flowers axillary, solitary, legumes sub-globose, inflated.

lanceolata, Wr. (y. Ap. ♃.) pubescent: leaves ternate, cuneate, lanceolate obtuse: flowers axillary, solitary; the terminal ones racemed. 1—2 f. The *uniflora* of Ph. Florida.

villosa, Wr. (y-w. J. ♃.) leaves ternate, lanceolate, hairy: stem and calyx villose: stipules linear: racemes terminal.

mollis, Mx. (♃.) stem, leaves, and calyxes, minutely hairy: leaves ternate; leafets lance-rhomboid: stipules leafy, lanceolate: racemes in terminal spikes: teeth of the calyx acute.

bracteata, M. (W. w. Ap.) pubescent: branches spreading: leaves ternate, petioled; leafets lanceolate: racemes axillary, reclined: bracts large, broad-subulate, permanent. 2 f. The *leucophæa*? N.

simplicifolia, Croom. (y. J. ♃.) leaves simple, rhomb-ovate, obtuse, glabrous, without stipules: stem angular: legumes pedicelled. Florida.

sphaerocarpus, N. (W. y. ♃.) very glabrous: leaves sessile: leafets lance-oblong and ovate, obtuse: stipules subulate, minute: legumes very short, sub-globose: spikes long, terminal. Arkansas.

microphylla, N. (y. ♃.) leaves simple, sessile, round-cuneate; upper ones clasping: stipules roundish: flowers axillary, solitary: legumes short, sub-globose. Florida.

14—2. BARBARE'A. Br. 63. Cruc. asc. nut.

vulgaris, (3) (water radish, water rocket. O. y. M. ♃.) lower leaves lyrate-pinnatifid, with the terminal lobe roundish; upper leaves obovate, toothed. Banks of rivers. Wet lands.

precox, Br. (4) (winter cress. ♃.) lower leaves lyrate, with a termimal ovate-lobe, upper ones deeply pinnatifid, with linear oblong terminal-lobes. Canada. C.

11—1. BARTO'NIA. 88. Laoas. ton—.

laevicaulis, H. (W. J. w.) petals 5: stamens 5, petalloid: bracts 0: stem very smooth, seeds winged. R.

Baltimora. In honor of Lord Baltimore, the settler of Maryland.
Baptisia. Gr. *baptŏ*, to dye, as it is often used as a color.
Barbarea. So named from its being called the herb of St. Barbary.
Bartonia. In honor of Dr. B. S. Barton, of Philadelphia.

(1) Podalyria, W. Sophora, Wr. (2) australis, W. (3) Erysimum barbarea, L. (4) Erysimum precox, S.

parviflora, Dg. ( ) petals 5: stamens 5—7, petaloid: bracts 0: stem scabrous: seeds winged. R.

albicaulis, Dg. (y. ☉.) petals 5, obovate, small: stamens petaloid, or none: bracts none: stem very smooth, shining, white. R.

Bartonia, as changed to Centaurella.

13—2. Bart′sia. 36. Rhinan. ton—.

pallida, (white painted cup. A. w-y. Au. ♃.) leaves alternate, linear, undivided; upper ones lanceolate; floral ones sub-oval, sub-toothed at the summit; all are 3-nerved: teeth of tha calyx acute. White-hills.

acuminata, Ph. (W. ♃.) leaves alternate, long-linear: floral leaves ovate, long-acuminate, 3-nerved, all undivided: flowers shorter than the bracts: teeth of the calyx acute.

tenuifolia, Ph. (W. y. Ju. ♃.) very hirsute: leaves alternate, linear, gash-pinfiatifid; divisions filiform: bracts (yellow.) membranaceous, oblong, obtuse, tooth-hastate at the base on each side, longer than the flowers: calyx short, hairy, with subulate teeth. 1 f.

alpina, W. (p. ♃.) leaves opposite, ovate, sub-cordate, obtuse-serrate, rugose: anthers hirsute. 6 i.

gymnandra, W. (W. b. ♃.) leaves sub-opposite, ovate, crenate; a pair of radical ones petioled: spike oblong; the whorled bracts compact. 7 i.

Note. The *coccinea* is removed to Nuttall's new genus, Euchroma.

5—1. Bat′schia. 43. Bora. pec—.

canescens, (puccoon, false bugloss. W. y. Ju. ♃.) whitish-villose: leaves all oblong: calyx very short: divisions of the corol entire. A red substance covering the root is the puccoon paint of the Indians. *S.* P. H. N. Mich.

gmelini, Mx. (W. r-y. Ap. ♃.) hirsute: floral leaves ovate: segments of calyx long sub-lanceolate. Dry woods. 10.—16 i. *S.* Mich.

Southern.

longiflora, N. (W. y. Ju. ♃.) hirsute, erect; leaves approximating, long-linear: margin reflexed: fascicles fastigiate: tube of the corol sub-pentangular; border flat, with fringed crenatures.

decumbens, N. (W.) hirsute: stem decumbent: segments of the calyx and leaves linear: flowers scattered: lobes of the corol fringed-crenate, shorter than the tube.

3—2. Beckman′nia. 10. Gram. far. ton.

Southern.

crucaeformis, Ju. (W. Ju.) panicle 2-rowed, 1-sided, linear: glumes 1 or 2-flowered, with scarious margins: stigma hirsute.

Befaria, Bejaria.

12—1. Beja′ria. 50. Eric. diu. ast.

Southern.

racemosa, Ph. (w-r. J. ♄.) leaves lance-ovate, glabrous: flowers raceme-panicled, terminal: stem hispid. 3 f. Sand.

17—2. Bel′lis. 55. Ast. sec-sti.

Exotic.

perennis, (daisy. w. & p. Ap. ♃.) leaves obovate, crenate: scape naked, 1-flowered. Grows wild in cultivated fields in Pittsfield, Mass.

Bartsia. In honor of Dr. Bartseh, a friend of Linneus.

Batschia. In honr of J. G. Batsch, of Jena, author of several valuable botanical books.

Beckmannia. In honor of Prof. Beckmann, a German botanist.

Bejaria. In honor of Bejar, a Spanish botanist.

Bellis. Lat. *bellus*, handsome, from its appearance.

Southern.

integrifolia, Mx. (W.) caulescent; spread-branched: leaves entire; lower ones obovate; upper ones lanceolate: leafets of the involucre very acute and acuminated with a hair.

6—1. Ber'beris. 78. Berb. f. jel. ref. r. ton. dye.

vulgaris, (1) (barberry. y. M. ♄.) branches punctate: prickles mostly in threes: leaves obovate, remotely serrate: flowers racemed. N. Y. C. P. B. Canada.

pinnata, (W. y. Ap. ♄.) sarmentose, unarmed: leaves pinnate: leafets mostly in three pairs, oblong, rapand-toothed, veiny: petals 2-toothed. The aquifolium. Ph. R.

nervosa, Ph. (W. y. Ap. ♄.) sarmentose, unarmed: leaves pinnate: leafets 6-paired, ovate-oblong, repand-serrate, somewhat 5-nerved: petals entire. R.

aquifolia, H. K. (2) (W.) leaves in 2 and 3 pairs, lower pair distant from the base of the petiole; leafets ovate, near each other, spine-toothed, cordate at the base, 1-nerved: racemes erect, dense: filaments 2-toothed.

canadensis, Ph. (M. Ju. ♄.) branches verrucose-dotted, with short tripple spines: leaves spatulate-oblong, remotely serrate, with somewhat bristly teeth: racemes sub-corymbose, few-flowered: petals emarginate: berries sub-globose or oval. 2 to 3 f. Virginia, Georgia. B. vulgaris of Walter is a synonym.

Berchemia, Rhamnus.

Bernhardia, Psilotum.

5—2. Be'ta. 29. Chen. nut. sug. h. lax.

Exotic.

vulgaris, (beet. g. Au. ♂.) flowers heaped together: lower leaves ovate.

cicla, (white-beet, scarcity. ♂.) flowers in threes: radical leaves petioled, cauline ones sessile: lateral spikes very long.

19—12. Be'tula. 99. Betu. b. aro. ton. h. sug. cab.

populifolia, W. (3) (white birch, poplar birch. Ju. ♄.) leaves deltoid, long-acuminate, unequally serrate, very glabrous: scales of the strobile with rounded lateral lobes: petioles glabrous. 30—40 f. T. V. Y. N. C.

excelsa, (4) (tall birch, yellow birch. O. J. ♄.) leaves ovate, acute, serrate: petioles pubescent, shorter than the peduncle? scales of the strobile with rounded lateral lobes. 70—80 f. Mich.

rubra, Mx. (5) (red birch. M. ♄.) leaves rhombic-ovate, doubly serrate, acute, pubescent beneath, base entire: pistillate ament ovate: scales villose: divisions linear, equal. 70 f. Excellent cabinet timber. S.

papyracea, W. (6) (paper birch, canoe birch. ♄.) leaves ovate, acuminate, doubly serrate; veins hirsute beneath: petiole glabrous: pistillate ament peduncled, nodding: scales with lateral, short, sub-orbicular lobes. Has a paper-like bark, of which the Indians construct canoes. Y. W. T. N. Mich.

lenta, W. (7) (spicy birch, cherry birch, black birch. O. M. ♄.) leaves heart-ovate, sharp-serrate, acuminate: nerves and petioles pilose beneath: scales of the strobile glabrous, with obtuse equal lobes having elevated veins. Large tree, whose wood is much like mahogany: very sweet scented. 80 f. S. b. tan. Russia leather.

glandulosa, (scrub birch. M. ♄.) branches glandular-dotted, glabrous: leaves obovate, serrate, at the base entire, glabrous, sub-sessile: pistillate ament oblong, scales half-3-cleft: fruit orbicular, with a narrow margin. 2—8 f. Very abundant in the marshes about Stockbridge, Mass. It seems to be intermediate between Betula and Alnus. Y. P. T. Mich.

nana, (dwarf birch. M. ♄.) very small and glabrous: leaves small, wedge-orbiculate, gash-crenate, net-veined beneath: scales of the ament deeply 3-parted, divisions oblong, fruit oblong, nearly wingless. Swamps. Canada. N.

Berberis. Obscure: *Berberis*, according to Golius, is the Arabic name of this plant.
Beta. Gr. letter *Beta*, which its seed resembles, or from Celt. *bett*, meaning red.
Betula. Beta is the Celtic word for the Birch. betula, Lat.

(1) canadensis, N. (2) mahonia, N. (3) acuminata, Eh. (4) lutea; Mx. (5) lanulosa, Mx. nigra, L. (6) papyrifera, Mx. (7) nigra, Wm. carpinifolia, Eh.

pu'mila, W. (1) (dwarf birch. O. J. ♄.) branches pubescent, dotted; leaves orbicular-obovate, petioled, dense-pubescent beneath: pistillate ament cylindric. 2—3 f. Y. P. C. N.

17—3. BI'DENS. 55. Arte. irr. sal. dia.

cernua, (water beggar-ticks. O. y. Au. ☼.) flowers sub-rayed, drooping: outer involucre longer than the flower: leaves lanceolate, sub-connate, toothed. One variety, *minima*, has sessile leaves and erect flowers and akenes: another variety, *coreopsis*, has serrate, opposite, clasping leaves. Mich.

chrysanthemoides, W. (2) (daisy beggar-ticks. O. y. Au. ☼.) flowers rayed, drooping, rays erect, longer than the sub-equal involucre: leaves oblong, tapering to both ends, toothed, connate. Flowers large: 2, 3 or 4 awns to an akenium. Wet. *S.*

tripartita, (three-fingered beggar-ticks. Au. ☼.) flowers discoid: outer involucre longer than the flower: akenes with 3 awns: leaves 3-cleft. 3 f. Swamps. Bigelow finds this species near Boston: probably we have labelled it by some other name.

frondosa, (burr marygold, cuckold. O. y. Ju. ☼.) flowers discoid: outer involucre six times as long as the flower: leafets ciliate at the base: lower leaves pinnate; upper ones ternate, lanceolate, serrate. *S.* Mich.

connata, W. (3) (y. Ju. ☼.) flowers discoid: outer involucre thrice as long as the flower: cauline leaves ternate; lateral leafets connate; floral ones oblong lanceolate. *S.* P. Y. C. N.

pilosa, W. (Ju. ☼.) flowers discoid: outer involucre of the length of the inner: lower leaves pinnate; upper ones ternate: leafets oblong, a terminal lanceolate one twice as long as the rest. *S.* P.

bipinnata, (hemlock beggar-ticks. y. Ju. ☼.) flowers sub-rayed: outer involucre of the length of the inner: leaves doubly pinnate; leafets lanceolate, pinnatifid. *S.* Y. P. C. H. N.

beckii, T. (water marygold. Au. y. ♃.) submersed leaves capillary, divided into many parts, dichotomous: flowers erect, terminal, solitary. Flowers radiate. A new species discovered in a pond near Schenectady, N. Y., by Dr. Lewis C. Beck, and named by Dr. John Torrey, in honor of the zealous and persevering discoverer. Sodus Bay. Mich.

gracilis, T. & J. (W. y.? ♃.) very glabrous: leaves pinnate-5-cleft; divisions narrow-linear, entire: stem sub-ramous, erect: flowers terminal, solitary, long-peduncled, discoid: bracts half as long as the involucre. *S.* 2 f.

petiolata, N. (☼.) glabrous: leaves simple, petioled, narrow; lanceolate, acuminate at both ends, serrate: flowers discoid: outer involucre middling. Mich.

13—2. BIGNO'NIA. 40. Bign. h. fom.

radicans, (trumpet flower. O. r. & y. Ju. ♄.) leaves pinnate: leafets ovate, toothed, acuminate; corymb terminal; tube of the corol thrice as long as the calyx: stem rooting. Most beautiful climbing shrub. One variety, *flammea*, has yellow-scarlet flowers; another variety, *coccinea*, has bright scarlet flowers. Cultivated. *S.* P.H.

Southern.

crucif'era, W. (y-r. J. ♄.) leaves conjugate, cirrose; lower ones ternate; leafets heart-ovate, acuminate: racemes axillary: stem muricate. K.

capreolata, W. (r. March. ♄.) leaves conjugate, bearing tendrils, the lower ternate; leafets ternate, cordate, acuminate: racemes axillary: stem roughened. A vine. Woods. K. Florida. Probably same as *crucigera*. H. H. Eaton.

Bignonia, CATALPA.

21—1. BLECH'NUM. 5. Fili. sec-sti.

borealis, (roman fern. Au. ♃.) barren frond pinnatifid; divisions lanceolate, obtusish, parallel: fertile frond pinnate; leafets linear, acuminate.

Bidens. Lat. *bis*, two, and *dens*, tooth, from the seeds being surmounted with two teeth.

Bignonia. In honor of Abbe Bignon, a friend of Tournefort.

Blechnum. Gr. *Blechnon*, one of the Greek names of the fern.

(1) nana, Kalm, not W. (2) Coreopsis perfoliata, Wr. (3) chrysanthemoides, Mx.

serrulatum, (♃.) frond pinnate: leafets lanceolate, tapering to both ends, at the base decurrent, sharp-serrate. I do not know that we have a Blechnum in the northern district.

Southern.

virginicum, (virginian blechnum.) frond pinnate: leafets many-cleft, lanceolate, sessile, semipinnatifid, acute; divisions obtuse, quite entire. Of the height of the Polypodium filix-mas. Virginia and Carolina.

radicans, (root-leaved blechnum.) frond bipinnate; leafets lanceolate, crenulate, sessile, slightly concurrent at the base, serrate with a very fine callus, acuminate, more veined beneath: lines of fructification next the nerve, interrupted. Virginia.

17—2. Bleph′aripap′pus. 55. Heli. sec-sti.

glandulosus, H. ( ) hispid: leaves broad-linear: upper ones and the involucres with black pedicelled glands: chaffs of the egret elongated, having long hairs at the base: bony akenes of the ray naked, bald. 6—8 i. R.

scaber, H. ( ) leaves narrow-linear, scabrous: involucres sub-pubescent, without pedicelled glands: all the akenes bony and villose: chaffs of the egret shortish, chiefly fringed-ciliate above. R.

Blefilia, Monarda.

18—1. Blet′ia. (1) 21. Orch. nut. em.

Southern.

aphylla, N. (y. r. Au. ♃.) leafless: scape terete, scaly, tapering near the summit; the scales ovate, alternate: lip without a spur. 18 i.

verecunda, N. (Ju. ♃.) radical leaves broad-lanceolate, plaited, nerved: scape many-flowered: inner petals converging: lip inflated, with an emarginate border, crisped, furrowed. ath. diu.

1—2. Bli′tum. 29. Chen. ape. ton—.

capitatum, (strawberry blite, Indian strawberry. W. r. J. ☉.) heads in a terminal spike, not intermixed with leaves: leaves triangular-hastate, toothed. 15 i. S. T. B. N. Mich.

virgatum, (slender blithe. W. r. J. ☉.) lateral heads scattered, top ones leafy: leaves triangular-toothed. P. O.

maritimum, N. (sea blithe. L. g. S. ☉?) calyx membranaceous: clusters axillary, spiked, naked; leaves lanceolate, tapering to each end, gash-toothed. Salt marshes. 2—3 f. Very branching. Y.

Southern.

chenopodioides, N. (W. ☉.) leaves sub-hastate-triangular, sub-dentate, tapering to both ends: glomerules axillary, leafy: seeds distinct, punctate, not berried. Dry.

17—2. Boebe′ra. 55. Eupa. sec-sti.

Southern.

chrysanthemoides, W. (W. y. Au. ☉.) stem panicled: leaves opposite, sub-pinnate, glabrous, acute.

16—4. Bœhme′ria. 98. Urti. vis-acr.

cylindrica, W. (2) false nettle. O. g. Ju. ♃.) leaves opposite, ovate-oblong, acuminate, toothed, glabrous: flowers sub-diœcious: staminate spikes glomerate, interrupted; pistillate spikes cylindric: stem herbaceous. Damp. 18 i. S.

Blepharipappus. Gr. *blepharis*, eyelashes. *pappus*, down: the egret resembling the eyelashes.

Bletia. In honor of Louis Blet, Spanish apothecary.

Blitum. Gr. *bliton*, insipid. and Celt. *blith*, meaning the same. Relating to the fruit.

Boedera. In honor of Boeder, a Russian botanist.

Bœhmeria. In honor of Bœhmer, a German botanist.

(1) Cymbidium. (2) Urtica cylindrica, L.

lateriflora, (Ju. ♃.) leaves alterntae, ovate-lanceolate, acuminate, serrate, rough-flowers glomerate, lateral: stem herbaceous. Leaves 3-nerved, and on long petioles. *S.* P.

3—1. Boerhaa'via. 32. Nyct. ast-cat.

Southern.

erecta, (w. p. J. ♃.) stem columnar, trichotomous, rough below, smooth above: flowers in corymb-panicles.

17—2. Bolto'nia. 55. Aste. sec-sti.

asteroides, (false aster, w-r. Au. ♃.) leaves very entire; flowers long-peduncled: akenes oval, glabrous, sub-awnless. *S.* P.

glastifolia, (false chamomile. w. Ju. ♃.) lower leaves serrate: flowers short-peduncled: akenes obcordate, apparently winged, pubescent: awns of the egret two, of equal length with each other. Resembles Anthemis cotula. *S.* P.

Southern.

diffusa, E. (w. y. S. ♃?) leaves lance-linear, margin scabrous: panicle diffuse, many-flowered: akenes obovate, emarginate, slightly winged: egret two long awns. 2f.

Bootia, Potentilla.

Remark. Dr. Wallich has dedicated a new splendid East Indian genus to Mr. Boot: and Hooker says this plant may be returned to the genus Potentilla, under the specific name, *arguta*, a European species.

5—1. Bora'go. 43. Bora. ast-pti. pec.

Exotic.

officinalis, (borage. b. Ju. ☉.) leaves alternate: calyx spreading.

africana, (☉.) leaves opposite, petioled, ovate: peduncle many-flowered.

17—1. Borkhau'sia. 53. Card. sec-sti.

grandiflora, N. (W. y. ☉.) sub-cauline, with fine hairs: leaves lyre-runcinate, with lobes gashed-acute, sometimes sub-entire: stem very short: peduncles sub-solitary, very long, 1-flowered. Arkansas; found by Dr. Z. Pitcher.

Southern.

caroliniana, N. (y. March. ♂?) leaves lance-oblong, glabrous, rarely toothed, sometimes pinnatifid: stem erect, few-flowered: peduncles long. 2 f.

20—2. Bo'rya. 96. Euph. cath. em—.poi—.

Southern.

porulosa, Mx. (dotted borya. L.) leaves lance-oblong, obtuse, sessile, coriaceous, dotted under side; margins revolute.

acuminata, Mx. leaves lance-oval, tapering at each end, petioled, membranaceous, slightly serrulate.

Botrophis, Macrotrys. *Raf.*

21—1. Botry'chium. 5. Fili. sec-stim. ton—.

fumarioides, W. (1) (grape fern, moon wort. J. ♃.) scape naked; frond glabrous,

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Boerhaavia. In honor of Boerhaave, the celebrated physician.

Boltonia. In honor of Js. Bolton, a British naturalist, and artist.

Bootia. In honor of Francis Boot, of Boston, a very accurate botanist.

Borago. Lat. corrupted from *bor*, heart, and *ago*, to effect, it being supposed to cheer the spirits.

Borkhausia. In honor of Mr. Borkhausen, a distinguished German botanist.

Borya. In honor of the botanical traveller, M. Bory de St. Vincent.

Botrychium. Gr. *botrus*, a bunch of grapes, referring to the fructification which resembles this.

(1) Botrypus lunarioides, Mx. Osmunda biternata, Lk.

radical, 3-parted, 2-pinnate; leafets lunate, crenate: spikes pinnate. *S.* P. Y. Grafton, N. Y. Avery. Mich.

obliquum, W. (J. Ju.) scape below, 1-fronded: frond sub-biternate; leafets oblong-lanceolate, serrulate, dilated at the base, unequally heart-form: spikes doubly pinnate. Perhaps only a variety of the last. P.

dissectum, (J.) scape below, 1-fronded: frond 3-parted, 2-pinnatifid; divisions linear, 2-parted, at the apex 2-toothed. *S.* P. Y. C.

virginicum, W. (1) (rattlesnake fern. O. J. Ju.) hirsute: scape in the middle fronded: frond sub-ternate, 3-parted, 2-pinnatifid; leafets gash-pinnatifid; divisions obtuse, sub-3-toothed: spikes 2-pinnate, divaricate. Large. *S.* Mich.

gracile, Ph. (J.) glabrous: scape in the middle, fronded: frond 3-parted, 2-pinnatifid; divisions gash-sub-pinnatifid, acute, sub-toothed: spikes slender, pinnate, erect. Smaller. Var. of the last? C. Y. W. P. T.

simplex, Hitchcock. (J.) glabrous: scape below, 1-fronded: frond simple, 3-lobed or 3-cleft: segments unequal: spike sub-compound, interrupted unilateral: capsules sessile. Sori the size of mustard seed. Grows in dry hilly pastures, about three or four inches high. Vid. Amer. Jour. Sci. vol. 6, p. 103. N.

Boykinia, SAXIFRAGA.

3—2. BRA'CHYELY'TRUM. 10. Gram. far. ton—. fod.

erectum, P. (false dropseed. A. Ju. ♃.) pubescent: culm strong, simple: panicle with few branches. Taken from the Muhlenbergia. The specific name, *aristactum*, has been substituted by some. *S.* C. O. H. N. Mich.

17—2. BRACHY'RIS. N. 55. Inul. sec-sti. ton.

Southern.

sarothrae, Ph. (2) (W. y. ♃.) stems numerous, angled, scabrous, naked below, corymbed above, branches few-flowered at the top: leaves linear, close-pressed, obsoletely 3-nerved, scabrous both sides. Taken from Solidago. The specific name, *euthamiae*, is substituted by some. 7 i.

Brachystemum, PYCNANTHEMUM.

Brasenia, HYDROPELTIS.

14—2. BRASSICA. 63. Cruc. asc. ase. nut. emo.

Exotic.

orientalis, (perfoliate cabbage. ♂.) leaves heart-form, clasping, glabrous; radicle ones entire: silique 4-sided.

napus, (kale or cole. ♂.) root caulescent, fusiform: leaves smooth: upper ones heart-lanceolate, clasping: lower ones lyrate-toothed. (Rape.) Nuttall supposes this species grows native in ledges of rocks near Arkansas.

rapa, (turnip. ♂.) root caulescent, orbicular, depressed fleshy: radical leaves rough; cauline ones very entire, smooth. Var. *rutabaga*, has a turbinate, sub-fusiform root.

oleracea, (common cabbage, including all the varieties caused by culture. ♂.) root caulescent, terete, fleshy: leaves smooth, glaucous, repand-lobate. In sour-crout a most excellent anti-miasmatic, and a defence in cases of epidemics.

41—2. BRAY'A. 63. Cruc. asc. nut—

alpina, Hk. (W. ♃.) leaves glabrous: scape scarcely leafy: bract-bearing, racemes capitate. R.

Brachyelytrum. Gr. *brachus*, short, and *elutron*, sheath, from its short calyx.

Brachyris. Gr. *brachus*, short, and *achuron*, a chaffy scale; the egret being short and chaffy.

Brassica. Obscure: some say from Gr. *brasso*, to boil, it being used as a pot-herb; others derive it from Celt, *bresic*, signifying cabbage.

Braya. Named by Dr. Hoope, after Count Bray, a German patron of science.

(1) Osmunda virginica, L. Botrypus virginicus, Mx. (2) Solidago sarothæ, Ph.

glabella, Rich. (w. p.) leaves glabrous: scape mostly leafy: fruit-bearing racemes lax, long. A.

17—1. BRICKEL'LIA. 54. Card. sec-sti. ton—.

cordifolia, (p. Au.) lower leaves cordate, acuminate, dentate, pubescent; upper ones obtuse: involucre many-flowered: corol tubular, 5-cleft: stamens attached to the corol: akenes long, hairy: receptacle naked and dotted.

3—2. BRIZ'A. 10. Gram. far. ton—.

media, (quaking grass, rattle snake grass? J. ♃.) panicle erect: spikelets heart-ovate, about 7-flowered: glumes smaller than the flowers. 1 f. Probably introduced. Bw. C.

Exotic.

maxima, (rattle snake grass? ☉.) spikes cordate, with 17 florets in each: glumes chesnut brown.

6—1. BRODIÆ'A. 16. Asph. sti. exp. ton.

Southern.

grandiflora, S. (W. Ap. ♃.) umbels many-flowered: flowers pedicelled: stamens alternate, with membranaceous margins. Called Missouri hyacinth.

3—2. BRO'MUS. Gram. far. ton. cath—.

secalinus, W. (chess. O. J. ☉.) panicle nodding, spikelets ovate, compressed: glumes naked, distinct: awns shorter, subulate, straitish-zigzag. Probably from Europe; common in rye and wheat fields. Florets about 10 in each spikelet: leaves somewhat hairy. S. Mich.

ciliatus, W. (1) (W. ♃.) panicle nodding: spikelets oblong, compressed, 6 to 8-flowered: florets awned at the margin, ciliate-villose: sheaths and both sides of the leaves sub-pilose: culm bearded at the joints. S. Woods. Y. O. W. P. T. C. N. Mich.

pubescens, M. (broom-grass. W. J. ♃.) culm hairy below: joints brown: stipules very short: panicle at length nodding, pubescent: glumes less than paleas, 8 to 12-flowered: paleas pubescent, one valve awned beneath the apex. Var. *ciliatus*, has a ciliate valve in each palea; 8 to 10-flowered. Var. *canadensis*, has one very hairy, 7-nerved valve to each palea, and a short bristle. Y. V. P. O. M. N. Mich.

purgans, W. (Au. W. ♃.) panicle nodding: spikelets lanceolate, terete: florets awned, pilose: awns erect: leaves glabrous both sides, their sheaths pilose. S. Y. W. P. Mich.

mollis, S. (W. Ju.) panicle erect, compact: peduncles ramose: spikelets ovate, florets imbricate, depressed, nerved, pubescent: bristle straight, nearly as long as the paleas: leaves with short hairs. Y. N.

Southern.

altissimus, Ph. (W. J. ♃.) panicle nodding, spikelets oblong, about 6-flowered: florets pubescent: outer valve 3-nerved, with a short awn: leaves and sheaths glabrous: culm glabrous, very tall. 7 f.

20—4. BROUSSONE'TIA. 98. Datis. nar. ton. ano.

Exotic.

papyrifera, (paper mulberry, M. ♄.) leaves sub-cordate, lobed or undivided: roots sending off suckers. 20 f. Dn.

Brickellia. In honor of Dr. Brickell, of Savannah.

Briza. Gr. *britho*, to nod or hang down; alluding to the spike.

Brodiæa. In honor of James Brodie, an eminent Scotish botanist.

Bromus. Gr. *bromos*, wild oats, also any food for man or beast.

Broussonetia. In honor of Broussonnet, a French naturalist of distinction.

(1) canadensis, Mx.

8—3. Brunni'chia. 28. Poly. ton-cath. dia. s. far.

Southern.

cirrhosa, (A. ♃.) climbing: leaves cordate, acute, glabrous, entire: panicles terminal: bracts ovate, mucronate.

8—4. Bryophyllum. 83. Cras. det. ref. ast—.

Exotic.

calycinum, (leaf-plant, sprout-leaf. r-g. Ju. ♃.) leaves remarkably thick and succulent, crenate-serrate, oval; petiole channelled above; leafets in pairs: flowers long-cylindric, pendulous.

13—2. Buchne'ra. 37. Scro. acr. asc. poi—. diu. sal.

americana, W. (blue-hearts. O. b. Au. ♃.) stem simple: leaves lanceolate, sub-dentate, rough, 3-nerved: flowers remote, spiked. In the herbarium this plant becomes black. 1 f. S. P. Y. O. Mich.

5—11. Bume'lia. (1) 48. Sapo. ton. nut. diu.

Southern.

lycioides, Ph. (g-w. M. ♄.) spinous. erect: leaves broad-lanceolate, smooth both sides. Fruit a drupe. Wood hard and heavy.
reclinata, Ph. (J. ♄.) spiny, spreading: sterile branches spreading: leaves small, obovate, very smooth.
lanuginosa, (g-y. J. ♄.) spiny: branches expanding, hairy: leaves lance-oval, woolly under side. 10 f.
tenax, (g-y. ♄.) spiny: leaves lance wedge-form, mostly obtuse, silk-downy beneath. 25 f. Charleston, S. C.
oblongifolia, N. (W. ♄.) spiny: leaves oblong-ovate, obtuse, narrowed at the base, hairy beneath: flowers conglomerate, sub-sessile, numerous: segment of the nectary 3-cleft. 18 f.

17—2. Buphthal'mum. 55. Inul. ton. sec-stim.

Southern.

frutescens, (ox-eye, y. J. ♄.) leaves opposite, wedge-lanceolate, fleshy, whitish; petioles 2-toothed: stem shrubby. 2 f. Charleston, S. C.
angustifŏlium, Ph. (♃.) leaves alternate, linear, border, near the summit, entire, glabrous: involucre of acute, lanceolate, leafets.
sagittatum, Ph. (W. y. J. ♃.) tomentose: radical leaves long-petioled, oblong, sagittate, entire, somewhat 3-nerved; cauline ones oblong, tapering into the petiole: stem about 3-flowered: outer leafets of the involucre longer than the disk.

5—2. Bupleu'rum. 60. Umb. stom. nar—.

ranunculoides, ( ) radical leaves linear-lanceolate: cauline ones clasping, cordate-oblong, striate: involucre sub-3-leaved unequal; leafets of the involucels 5, ovate, mucronate, nerved, distinct. R. Behrings straits.

Exotic.

rotundifolium, (thorough wax. y. J. ☉.) leaves simple, perfoliate: involucre none. One of the few umbelliferous plants with simple leaves. 2 f. Cultivated.

Brunnichia. In honor of Brunnich, a Danish naturalist.
Buchnera. In honor of John Godfrey Buchner, a German botanist.
Bumelia. Gr. *boumelia*, the name given by the Greeks to our common ash.
Buphthalmum. Gr. *bous*, a bull, and *ophthalmos*, the eye, from the resemblance of its flower.
Bupleurum. Gr. *bous*, ox, *pleuron*, rib or side, alluding to the stiff striated leaves of some species.
(1) Sideroxylon, Mx.

Burmannia, Tripterella.

19—4. Buxus. 96. Euph. ton. iri. stom.

Exotic.

sempervirens, (box. ♄.) leaves ovate, petioled, somewhat hairy at the margin: anthers ovate, arrow-form. Var. *angustifolia*, leaves lanceolate. Var. *suffruticosa*, leaves obovate, stem hardly woody.

C.

Cabomba, Nectris.

17—1. Caca'lia. 55. Eupa. ton. sec-stim.

suaveolens, W. (wild carraway. W. w. Au. ♃.) stem herbaceous: leaves petiolate, hastate-sagittate, serrate, glabrous, green on both sides: flowers corymbed, erect: involucre many-flowered. 3—4 f. *S.* P.

atriplicifōlia, W. (orache caraway. W. w. Au. ♃.) stem herbaceous, leaves petioled, glabrous, glaucous beneath: radical ones cordate, toothed; cauline ones rhomboid, sub-2-toothed both sides: flowers corymbed, erect: involucre 5-flowered. Flowers small. *S.* P. Mich.

reniformis, W. (W. w. Au. ♃.) stem herbaceous: leaves petioled, glabrous beneath, pilose at the veins: radical ones heart-kidney-form, repand-toothed; cauline ones toothed, at the base wedge-form, entire: corymbs level-topped: involucre many-flowered. 5—10 f. P.

tuberosa, N. (W.) root tuberous: stem herbaceous: leaves petioled, ovate, obtuse, 5-nerved, entire: flowers corymbed, sub-fastigiate: involucre naked, 5-flowered, 5-leaved: leafets carinate. Flowers nearly white. 4—6 f. Natchez. Mich.

Southern.

ovata, Wr. (w. S—Oc.) stem herbaceous: leaves ovate, obtuse: obtusely toothed, nerved, slightly glaucous beneath: the lower ones petioled: involucre 5-leaved, 5-flowered. 3—4 f.

lanceolāta, N. (y. w.) stem herbaceous: leaves narrow-lanceolate, acute at each end, remotely toothed, nerved, slightly glaucous beneath: involucre 5-leaved, 5 flowered. 4—6 f.

11—1. Cac'tus. 85. Cact. ref. ton—. cat—.

opuntia, L. (1) (prickly pear. W. y. J. ♃.) proliferous: articulations compressed, ovate: bristles fascicular. The plant appears like a series of thick succulent leaves, one growing from the top of another. *S.* F. C. P. Y. Dry rocks, Catskill, Hudson, N. Haven.

Exotic.

phyllanthoides, Dc. (leaf-flowered prickly pear. r. Oc.) branches (leaf-like) ensi-form, compressed, obovate with spreading rounded teeth: spines few, setaceous, longer than the woody covering. 2 f. Jamaica.

Southern.

vivi'parus, Ph. (1) (W. r. Ju. ♃.) roundish, manifold or cespitose: tubercles cylindric, bearded, grooved and proliferous above the furrows.

mammillaris, L. (W.) tubercles ovate, terete, bearded: flowers scarcely exserted: berries scarlet, about equal with the tubercles.

ferox, N. (W. y. & r. Ju.) proliferous; articulations large, nearly circular, spiny: spines double; larger ones radiate, persistent: fruit dry, spiny.

fragilis. N. (W.) proliferous: articulations short, oblong, somewhat terete, fragile: spines double: flowers solitary, small: fruit dry, spiny.

Buxus. Gr. *puxos*, of *pukazō*, to thicken or make hard, from the density of its wood.

Cacalia. Gr. *kakalia*, a name given by Theophrastus to a mountain plant with large whitish leaves.

Cactus. Gr. *kaktos*, the ancient name for the prickly pear.

(1) Mammillaria. Dc.

cylindricus, (W. p. ♄.) very branching; terminal branches consiting of long cylindrical articulations: surface reticulated with decussate furrows.

14—1. Cakile. 63. Cru. asc. nut—.

americana, Scopoli. (sea-rocket. L. p. Ju. ☉.) leaves wedge-oblong, obtuse, sinuate-toothed: joints of the silicle 1-seeded: upper ones ovate, acute. Plant fleshy corymbed. Canada, Michigan, New Haven. C. edentula is a synonym, also Bunias maritima.

19—12. Caladium. 7. Aroi. acr. poi. irr.

glaucum, E. (J. ♂.) stemless: leaves glaucous, hastate-cordate, acuminate; lobes oblong, obtuse: spathe cucullate, the summit oval lanceolate, white, longer than the spadix. 12—15 i. *S.*

3—2. Cal'amagros'tis. 10. Gram. far. ton—. fod.

coarctata, T. (1) (Ju. ♃.) panicle somewhat spiked, conglomerate: glumes a little longer than the paleas, carinate: palea longer than the egret, awned a little below the tip. Resembles Agrostis glauca. 3—5 f. *S.* P.

canadensis, (reed-grass. Au. ♃.) panicle oblong, loose: glumes scabrous, pubescent, as long as the paleas: paleas awned on the back: hairs at the base equalling the valves: culm and leaves smooth. 3—4 feet high.

brevipilis, (S. ♃.) panicle diffuse, capillary: glumes unequal, shorter than the paleas, bearded at the base: paleas equal, awnless, hairy: hairs very short. 3—4 f.

13—1. Calamin'tha. 42. Labi. stom. ton. dia.

Southern.

nepeta, W. (r-w. J. ♃.) pubescent, very branching: leaves ovate, obtuse, sub-serrate: whorls peduncled, dichotomous-corymbed, longer than the leaves: down or wool of the calyx prominent.

grandiflora, Ph. (r. Ju.) suffruticose: leaves ovate, obtuse, crenate, smooth: whorls many-flowered, on short peduncles, shorter than the leaves. 12—18 i.

12—1. Calandrinia. 86. Port. em. ton—.

menziesii, Hk. (p.) caulescent: leaves linear-spatulate; the lower ones on long peduncles, with the margins naked; the upper ones glandulose-ciliate: sepals acutely carinate, glandulous, ciliate on the margins and keel: flowers peduncled, axillary. 2 to 4 i. Oregon, California.

speciosa, Linn. (p.) glabrous, diffuse: leaves spatulate, acute, attenuate into a petiole: flowers racemed: peduncles shorter than the bracts: petals longer than the calyx. 4 to 5 i. North California.

maritima, N. (M. r.) glaucous: leaves all in a radical cluster, obovate-spatulate, thick and fleshy, somewhat petioled, obtuse: stems scapiform, diffuse: flowers in a sub-corymbose raceme: pedicels longer than the bracts: petals longer than the broadly ovate, acute, sepals. California.

17—4. Calen'dula. 54. Card. car. sec-stim.

Exotic.

officinalis, (pot marygold. y. ☉.) akene keeled, muricate, incurved.

Cakile. An Arabian name of the Sea-rocket.

Caladium. A name used by Rumphius for some kinds of Arum.

Calamagrostis. Gr. *kalamos*, a reed and *agrostis*, grass, from its partaking of the nature of both.

Calamintha. Gr. *kalamos*, a reed, and *mintha*, mint, its appearance and smell uniting both.

Calandrinia. Gr. *kalos*, beautiful, *andrion*, little man, or stamen.

Calendula. Lat. *calendæ*, the first day of every month, from its flowering monthly.

(1) cinnoides. B.—canadensis, N.—Arundo stricta, Sl. glauca M.

19—12. **CAL'LA.** 7. Aroi. acr. poi.

palustris, W. (water arum. O. w. J. ♃.) leaves sub-roundish, heart-form, acute: spathe ovate, cuspidate, spreading when mature. Grows in wet places.

Exotic.

æthiopica, (negro arum, egyptian lily.) leaves sagittate-cordate: spathe cucullate; spadix with staminate flowers above.

4—1. **CAL'LICAR'PA.** 41. Verbe. diu. ton. aro—.

Southern.

americana, W. (r. J.) leaves serrate, tomentose underneath. 3—4 f.

12—4. **CAL'LIGO'NUM.** 28. Poly. cat. ref.

Southern.

canescens, Ph. (W. J. ♄.) dioecious, pulverulent tomentose: leaves lanceolate: flowers in axillary glomerules, spiked towards the ends of the branches; fruit winged; veins of the wings crowned with teeth.

17—3. **CALLIOPSIS.** 55. Heli. ton. sec-stim.

atkinsoniana, Reich. (♃.) leaves very glabrous; radical ones bipinnatifid; cauline ones pinnate with linear spatulate divisions: florets of the ray often spotted at the base, irregularly 3-lobed. R.

Callirhoe, NUTTALLIA.

1—2. **CAL'LITRI'CHE.** 88. Calli. ton—. cat—.

verna, var. intermedia, W. (1) (water chickweed, or starwort. O. w. M. ☉.) upper leaves spatulate-obovate; lower ones linear, obtuse and emarginate, flowers polygamous: margin of the capsule obtuse. S. C. F.

autumnalis, L. (Au. S. ☉.) leaves all linear, 1-nerved, truncate or emarginate: capsules with an acute margin: flowers all perfect. C. P. Y. N.

terrestris, R. (2) (Ju. ☉.) procumbent, diffuse: leaves oblong, uniform, rather obtuse: capsule grooved on the margin. Y. C.

6—3. **CA'LOCHOR'TUS.** 14. Lilia. diu. emo.

luteus, N. (y. ♃.) stem forked, about 2-flowered: leaves setaceous short: flowers large, inner petals much largest, glabrous at the apex, spotted: ciliate at the base, a mark in the claws of the downy petals. Root bulbous. R.

Southern.

elegans, Ph. (W. w. & p. ♃.) scape nearly 3-flowered, shorter than the single leaf: petal woolly within.

Callopogon, CYMBIDIUM.

12—12. **CAL'THA.** 61. Ran. edi. lax.

palustris, W. (american cowslip, marsh marygold. O. y. Ap. ♃.) stem erect: leaves cordate, sub-orbicular, acute-crenate: sepals 5 or 6, broadly oval. Var. *integerrima*, leaves wholly entire; floral ones sessile, obscurely crenate: petals obovate. Var. *parnassifolia*, stem 1-flowered, 1-leaved: leaves all petioled, broadly reniform,

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Calla. Gr. *kallos*, beauty, from the elegance of the flowers.

Callicarpa. Gr. *kallos*, beauty, and *karpos*, fruit, from the elegance of the fruit.

Calligonum. Gr. *kallos*, beauty, and *gone*, joint, implying a beautiful jointed structure.

Calliopsis. Gr. *kalas*, beautiful, *opsis*, seeing, or to look at; the flower being beautiful.

Callitriche. Gr. *kallos*, beauty, and *trix*, (*trichos*,) hair, alluding to the floating leaves.

Calochortus. Gr. *kallos*, beautiful, *chortos*, fodder, meaning that it is good for cattle.

Caltha. Gr. *kalathos*, a basket, from the shape of its corol, or, of *chalkos*, brazen, yellow, from its color.

(1) heterophylla, Ph. aquatica, Bw. (2) brevifolia, Ph.

sharply toothed: sepals elliptical. Var. *flabellifolia*, stem procumbent: leaves all petioled, broadly reniform, the lobes widely spreading. 12—18 i.

asarifolia, Dc. ( ) stem nearly erect, 1-flowered: leaves reniform-crenate, with the sinus obtuse, crenate: sepals 6 or 7, oval. Unalaschka.

arctica, R. Brown. (y.) stem creeping: leaves reniform, repandly crenate, obtuse: carpels imbricated: stigma persistent with the apex, rounded: stamens 20 or more, with the anthers linear. Coast of the Arctic Sea.

leptosepala, Dc. ( ) stem 1-leaved or naked, mostly 1-flowered: radical leaves on long petioles, ovate-cordate, obscurely crenate: sepals 8 to 10, oblong: pistils 8 to 15. A span high. R. M.

biflora, Dc. ( ) stem with a single leaf, 2-flowered: radical leaves petioled, reniform, crenate, with a very broad sinus: sepals oblong. N. W. Amer.

natans, Dc. (w. ♃.) stem procumbent, floating: leaves heart-reniform, crenate; lobes approximate; behind obsoletely crenate, before dentate: divisions of the calyx oval: capsules with a straight beak. Canada.

Southern.

sagittata, Dc. (W. w.) scape 1-flowered: leaves ovate, obtuse, entire, heart-sagittate at the base, with inflexed auricles above: divisions of the nectary 9; pistils 13 to 15.

11—12. CALYCAN'THUS. 92. Caly. aro. ton—.

laeviga'tus, W. (p. M. ♄.) segments of the calyx lanceolate: leaves oblong or oval, gradually acuminate, somewhat rugose, smooth and green on both sides: branches straight, erect. 4—6 f.

Southern.

floridus, W. (carolina allspice. p. M. ♄.) divisions of the calyx lanceolate: leaves broad-oval, acute, tomentose beneath: branches spreading. Florida. Cultivated. 3—7 f.

inodorus, E. (A. p. ♄.) segments of the calyx linear-lanceolate, pubescent: leaves lanceolate, scabrous and shining on the upper, smooth on the lower surface: branches spreading. 4—6 f.

glaucus, W. (J. ♄.) segments of the calyx lanceolate: leaves lanceolate, long-acuminate, glaucous beneath: branches spreading. 6—8 f.

3—1. CALYME'NIA. (1) 32. Nyct. cat—.

albida, Wr. (Ap. ♃.) leaves opposite, oblong, lanceolate, sub-scabrous: peduncles opposite, solitary and clustered: involucre 5-cleft.

nyctaginia, Mx. (W. Ju. ♃.) stem erect: leaves broad-cordate, acute, glabrous: peduncles solitary: fruit-bearing calyx sub-hirsute, much smaller than the broad involucre. Resembles Mirabilis.

linearis, Ph. (W.) stem erect, terete: leaves linear, somewhat fleshy: flowers racemed: pedicels aggregated: stamens very exsert.

hirsuta, Ph. (W.) stem erect, angled: leaves lanceolate, nerved, hirsute both sides: involucre very hirsute, sub-3-flowered.

decumbens, N. (W. r. J.) stem round, decumbent: leaves entire, narrow, sessile: peduncles axillary. Missouri.

18—1. CALYP'SO. 21. Orch. nut. emo.

americana, Br. (W. p.) lip narrowed, sub-unguiculate at the base; spur half 2-cleft, exceeding the lamina: divisions acute: peduncle longer than the germ.

borealis, Ph. (p. r. J. ♃.) radical leaf single, round-ovate, nerved: scape 1-flowered, sheathed. S. Mich.

Calycanthus. Gr. *kalux*, a calyx, and *anthos*, a flower, the calyx resembling a corol.

Calymenia. Gr. *kalux*, a calyx, and *humen*, a membrane, on account of the membranous calyx, by which the genus is distinguished.

Calypso. Gr. *kalupto*, to conceal, referring to the stigma being covered: or from the goddess *Calypso*, whose habitation was inaccessible.

(1) Allionia, Mx.

1—2. CALYPTRIDIUM. 86. Port. emo. ton—.

monandrum, N. (☉. r.) plant depressed, densely branched, glabrous: radical leaves lanceolate-spatulate, obtuse, thick and succulent, in a loose cluster: sepals slightly unequal, with scarious margins: corol minute: capsule compressed, pod-shaped, somewhat recurved; valves membranaceous. California.

Calystegia, CONVOLVULUS.

14—1. CAMELI'NA. 63. Cru. asc. nut—.

sativa, P. (wild flax, mad-wort. y. J. ☉.) silicle obovate, pyriform, margined, tipped with the pointed style, leaves sub-entire, lanceolate, sagittate. 18 i. T. C. P. Petersboro, on Klein, Hoosick, N. Y. Avery.
barbareafolia, Dc. ( ) silicles globose: leaves oblong, pinnatifid, obtusely auricled at the base: stem villose at the base. R.

5—1. CAMPAN'ULA. 52. Camp. ton. diu—. cat—.

rotundifolia, W. (flax bell-flower. hair-bell. O. b. J. ♃.) glabrous: radical leaves heart-reniform, crenate: cauline ones linear, entire: panicle lax, few-flowered: flowers nodding. Radical leaves wither as soon as the flower expands. 1—2 f. S. Mich.
amplexicaulis, Mx. (1) (clasping bell-flower. O. b. M. ☉.) stem simple, erect: leaves heart-form, crenate, clasping: flowers axillary, sessile, glomerate. 12—18 i. S. Mich.
americana, W. (W. b-w. Au. ♃.) leaves ovate-lanceolate, long-acuminate; lower ones sub-cordate, with the petioles ciliate: flowers axillary, nearly sessile, in a terminal leafy raceme: corol sub-rotate: style exsert. Cultivated. 2 f. P. Mich.
crinoides, M. (2) (prickly bell-flower. W. w-b. J. ☉.) slender: stem simple, angular; angles, and the margin and nerve of the leaves, with reversed prickles: leaves linear-lanceolate, glabrous on the upper side: peduncles few; those on the top of the stem flexuose; axillary ones 1-flowered, filiform. 12 i. C. N. T. Mch.
nitida, (W. b. Ju. ♃.) very glabrous: radical leaves oblong-spatulate, coriaceous, cartilaginous-crenate: cauline ones lance-oblong, sub-entire: flowers racemed: corol bell-wheel-form. 7 i.
uniflora, L. (W.) pubescent: radical leaves round-obovate; cauline ones lance-linear, somewhat toothed: stem about 1-flowered.

Exotic.

medium, (canterbury bells. w. b. Au. ♂.) capsule 5-celled, covered: stem undivided, erect, leafy: flowers erect.
speculum, (venus' looking-glass. b. Au. ☉.) stem very branching, diffuse, leaves oblong, sub-crenate: flowers solitary, often destitute of the scales at the base.
lanuginosa, (rough bells.) woolly hispid: leaves ovate, rugose, crenate, tapering into the petiole: stem simple: flowers sub-sessile, erect-spreading.
urticaefolia, W. (nettle-leaved bell-flower. Au. p. ♃.) stem angular hispid: leaves lance-ovate, coarsely serrate: peduncle axillary, 1-flowered, nodding: calyx hispid.

Southern.

divaricata, Mx. (b. Au. ♃.) leaves lanceolate, acute, with large serratures, glabrous: panicle expanding: flowers nodding. 2. f.

4—1. CAM'PHOROS'MA. 29. Cheno. ver. nut. asc.

Southern.

glabra, P. (L. ♃.) leaves somewhat 3-sided, glabrous, unarmed.

Calyptridium. Gr. *kalupter*, cap, *idios*, fitting, as the corol fits the capsule.
Camelina. An old French name, said to allude to its being the companion of flax, linum, or chamæ-linum, dwarf flax.
Campanula. Lat. *campanula*, a little bell; alluding to the shape of the corol.
Camphorosma. Lat. *Camphora*, camphor, and Gr. *osme*, smell, from it's odor.
(1) perfoliata, L. (2) aparanoides, Ph. flexuosa? Mx.

1—1. CAN'NA. 20. Mara. nut. asc.

Southern.

flac'cida, Roscoe, (1) (y. J. ♃.) interior limb of the corol 3-cleft; segments flaccid. 2—3 f.

angustifolia, W. (r. Au. ♃.) leaves petioled, lanceolate, ribbed: interior limb of the corol 3-cleft; divisions straight, emarginate.

20—5. CAN'NABIS. 98. Urti. nar. ano. ton. s. nut. for fowls.

Exotic.

sativa, W. (hemp. g. Au. ☉.) stem pilose: leaves petioled, digitate; leafets lanceolate, serrate, pilose: staminate flowers solitary, axillary: pistillate ones spiked. 4—10 f. Grows spontaneously. T.

5—1. CANTUA. 45. Polem. ton—.

longiflora, T. & J. (W.) very glabrous: leaves slenderly pinnatifid: flowers terminal, lax-corymb-panicled, peduncled: tube of the corol very long, tubular; divisions orbicular, slenderly acuminate: style exsert.

pungens, T. & J. (W.) leaves irritable, digitate, sub-fascicled; divisions subulate, pungent: divisions of the corol obovate, obtuse.

Southern.

coronopifolia, W. (O. r. & y. Ju. ♂?) leaves pinnatifid: flowers terminal, peduncled, in loose racemes: corol thrice as long as the calyx. 2—3 f.

floridana, N. (♂.) glabrous: leaves cut-pinnate, capillaceous: flowers in lax-racemes: corol tubular, narrow below, limb one-fourth as long as the tube: calyx abbreviated; divisions setaceous. Florida.

aggrega'ta, Ph. (W. r. J. ♂.) pubescent: leaves slenderly pinnatifid; flowers terminal and lateral, somewhat in heads, sub-sessile: divisions of the corol narrow, oblong, gradually acute: style included, very short.

parviflora, Ph. (W? b. J. ☉.) pubescent, diffuse: leaves pinnatifid; divisions long-linear: peduncles solitary, 1-flowered, terminal, and opposite to the leaves: corol a little longer than the calyx.

13—2. CAPRA'RIA. 37. Scro. acr. poi.

pusilla, T. & J. (W. w. ☉.) hairy: leaves opposite, cordate, repand-toothed, petioled: peduncles axillary, longer than the petioles.

Southern.

multifida, Mx. (W. g-w. Ju. ☉.) erect, viscid-hairy: upper leaves three in a whorl, many-cleft: pedicels solitary. K.

biflora, M. (E. ♃.) leaves alternate, ovate, serrate: flowers in pairs.

Caprifolium, LONICERA.

14—1. CAPSELLA. 63. Cru. ant. nut.

bursa-pastoris, (shepherd's purse. O. w. M. ☉.) hirsute: (sub-glabrous by growing in rich soil;) radical leaves pinnatifid.

5—1. CAPSICUM. 38. Sola. h. poi. f. & s. sti+.

Exotic.

annuum, (guinea pepper, red pepper, cayenne pepper. y-g. w. Au. ☉.) stem herbaceous: peduncles solitary. From South America. 10—18 i. Sti+. heat. *leth. gout. dysp. fla. epi.*

Canna. From the Celtic word *can*; signifying a reed or mat.
Cannabis. Gr. *kannabis*, hemp: the Arabic name is *ganeb.*
Cantua. The Peruvian name of this plant.
Capraria. Lat. *capra*, a goat, those animals being fond of it.
Capsella. Lat. *capsa*, box or casket, from the casket-like form of the silicle.
Capsicum. Gr. *kaptō*, to bite, from its qualities.
(1) angustifolia, Wr.

Southern.

baccatum, L. (bird pepper. ♄.) stem smooth; peduncles in pairs. Southern States, or Florida.

14—2. Cardam'ine. 63. Cruc. ċon. asc. diu. *epi.*

bellidifolia, L. (daisy-leaved water cress. W. w. ♃.) leaves simple, round-ovate, entire; petioles very long: flower-bearing stem of the length of the leaves. R.
teres, Mx. (w. J. ♃.) small, erect, ramose: leaves all sub-lyrate-pinnatifid: silique short, terete, acuminate. New England. Ph.
rotundifolia, Mx. (1) (W. A. w. M. ♃.) leaves sub-orbicular, nearly entire, smooth, petiolate: stem simple, weak, procumbent. 9—15 i. Whitehills. *S.* R. N. Mch.

pratensis, W. (field water-cress. O. r-p. M. ♃.) simple, glabrous, erect: leaves pinnate; radical leafets roundish, toothed; cauline ones lanceolate, sub-entire: racemes sub-corymbed. Mch.

hirsuta, (M. ☉.) leaves pinnate, hairy; leafets of the radical ones roundish, petiolate; those of the upper ones oblong, sub-sessile: petals oblong: siliques erect. P. R. Mch.

purpurea, H. (p.) sub-glabrous. radical and cauline leaves ternate, or quinate, with the lateral leafets round-oval, acute: terminal ones round-cordate, 3-toothed: petals net-veined: bracts sessile at the base of the lower pedicels, cuneate, 3-toothed. R.

angulata, H. (r. ♃.) leaves petioled. ternate, rarely quinate-pinnate; radical ones roundish; caulines ones ovate or lanceolate, angle or gash-lobed, glabrous. R.
digitata, Rich. (w-p.) leaves digitately pinnate: divisions sessile, linear, very entire: style short, scarcely more slender than the silique: stigma capitate. A.
oligosperma, N. (♂. w.) somewhat hirsute: leaves pinnate, petiolate; leafets reniform or obovate, conspicuously petiolulate, lobed or toothed; the central segments often 3-lobed: siliques in terminal fascicles, broadly linear, acute, erect, few-seeded: pedicels about one-sixth as long as the siliques. 1 f. Oregon.
ludoviciana, Hk. (w.) stems branching from the base, erect or diffused, leaves pectinately pinnatifid: segments oblong or linear, toothed: siliques rather erect, broadly linear: style none: seeds orbicular, margined. Georgia to Arkansas. C. *virginica* and *sisymbrium ludovicianum* are synonyms.

Southern.

spathulata, Mx. (w. A. ☉?) small: stems decumbent: root leaves spatulate, pubescent; cauline ones narrow, cuneate, entire, toothed: pods loosely divaricate. 6—12 i.
multifida, Ph. (♃.) hairy, branching: leaves interruptedly pinnate; leafets 2-pinnatifid, with roundish gashed divisions: silique short.

8—3. Car'diosperm'um. 65. Sapin. ton. r. ape.

Southern.

halcăcabum, W. (O. Au. ☉.) glabrous: leafets incised and lobed; the terminal one rhomboidal.

17—1. Carduus. 54. Card. sec-stim. if nau. cat.

pectinatus, W. (comb thistle, meadow thistle. p. ♂) unarmed: leaves decurrent, lanceolate, pectinately pinnatifid: peduncles almost leafless, terminal, very long, about 1-flowered: flowers nodding, often discharging the pollen: scales of the involucre linear ,spreading.

Cardamine. Gr. *kardia*, the heart, and *damaō*, to tame, from its fancied carminative qualities.
Cardiospermum. Gr. *kardia*, the heart, and *sperma*, seed, from a mark at the base of the seed.
Carduus. A name applied to prickly plants, from their being used to card wool; and card is derived from *kaard*, Celtic.
(1) Arabis rhomboidea, P.?

19—3. Ca′rex. 9. Cype. far. nut. and fod—.

Remarks. The Monograph of North American species of Carex by Schweinitz, edited by Torrey, is a work of very great merit; such as was to be expected from these gentlemen. But Prof. Dewey has made the Carex a subject of study for 18 years; and appears to me to have brought this very difficult genus down to the capacities of those learners for whom this Manual was compiled. I shall therefore adopt his Caricography, as published in the 7th, 8th, 9th, 10th, 11th, 12th, 14th, 25th, 26th, 27th, and 28th vols. of Silliman's Journal, with a few trivial alterations.

I. Stigmas two.

A. *Spikes dioecious.*

wormskioldiana,* Hor. (mountain sedge. A. J. ♃.) spike single, simple: leaves flat: fruit-bearing spike sometimes with 3-stigmas, oblong, acute, cylindric, densely imbricate: fruit ovate and sub-ovate, short beaked, hairy, equalling the ovate acute scale. White Mts. Oakes. 5 i. Probably the *dioica*. S.

B. *Spikes dioecious and androgynous.*

exilis, Dewey, (M. ♃.) spike single, slender: leaves 3-sided, bristly: fruit bearing spikes staminate below, somewhat dense flowered, simple: fruit lance-ovate, convex both sides, diverging, serrulate or scabrous at the margin; scale a little longer than the fruit, ovate, acute. 16 i. Wet. Var. *squamacea*, has the spike androgynous and longer, and numerous staminate flowers.

sterilis, W. (barren sedge. M. ♃.) spikelets in fives, sessile, approximate: fruit ovate, acuminate or somewhat beaked, 2-cleft, 3-sided-compressed, scabrous at the margin; equalling the ovate acutish scale. 8 i. Wet. S. N.

bromoides, Sh. (M. ♃.) spikelets many, alternate, oblong, erect, the uppermost staminate below, the others pistillate, androgynous above and below, and staminate in the middle, or the middle ones staminate below: fruit erect, lanceolate, acuminate, scabrous, nerved, bifid, half as long as the lance-ovate scale. 14 i. Wet. S. C. T. N. Mch.

C. *Spikes androgynous.*

1. *Stamens at the summit of the spikelets.*

cephalophora, W. (head sedge. M. ♃.) spikelets ovate, densely aggregated, somewhat in fives, threes, or sevens, bracted: fruit ovate, acuminate, compressed bifid, margin scabrous, nearly equalling the small scabrous-cuspidate scales. 20 i. Woods. S. W. Y. B. P. T. C. N. Mch.

rosea, (Sh. M. ♃.) spikelets somewhat in fours, alternate, remotish, sessile: lower one with a long setaceous bract: fruit lance-oblong, convex above, margin scabrous 2-toothed, diverging, about twice as long as the ovate obtuse scale. 12 i. Moist. Var. *radiata*, has its spikelets distant, about 3-flowered, with little setaceous bracts, and very narrow leaves. 6 i. S. T. N.

retroflexa, M. (O. M. ♃.) spikelets about in fours, alternate, ovate, sub-approximate, sessile, bracted: fruit ovate, acutish, 2-toothed, margin glabrous or scabrous, reflex-spreading, about equal to the ovate acute scale. 1 f. Woods. S.

muhlenberghii, Sh. (W. ♃.) spikelets alternate, somewhat in fives, obtuse, approximate, staminate above: fruit ovate, compressed, nerved, 2-cleft, margin scabrous, sub-divergent, a little shorter than the ovate scale. 15 i. Mountain woods. S. P. C. N.

stipata, M. (O. M. ♃.) spike decompound: spikelets numerous, oblong, aggregated, bracted: fruit lance-ovate, terete at the base, plano-convex, scabrous at the margin, nerved, bifid, diverging, about twice as long as the lance-ovate scale. 2 f. Wet. S. Mch.

multiflora, M. (M. ♃.) spikes alternate, approximate, bracted, sessile; spikelets oblong-ovate, obtuse, bracted, conglomerate: fruit ovate, acuminate, compressed, densely imbricate, bifid, 3-nerved, diverging, a little smaller than the ovate-cuspidate scale. 20 i. Moist. Var. *microsperma*, has the fruit but little compressed or acuminate, and very small. S. C. T. P. O. N.

Carex. From Lat. *carere*, to want, the upper spikes of these plants being constantly without seeds, consisting only of staminate flowers.

* For synonyms, see Silliman's Journal, and the annals of the N. Y. Lyceum.

sparganoides, M. (M. ♃.) spikelets somewhat in eights, ovate, somewhat distant, bracted: fruit ovate, compressed, scabrous at the margin, diverging, acuminate 2-toothed, twice as large as the ovate, mucronate scale. 20 i. S. C. O.

disper'ma, Dewey. (O. M. ♃.) spikelets somewhat in threes, sub-approximate, erect lower one bracted: fruit ovate, obtuse, nerved, plano-convex, glabrous, twice as long as the ovate, acute, sub-mucronate scale. 10 i. Wet woods and mountains, near Williams college. Mch.

setacea, Dewey. (W. J. ♃.) spikes sessile, alternate, approximate, bracted; spikelets ovate, obtuse, conglomerated, bracted: fruit lance-ovate acuminate, compressed, bifid, somewhat diverging, about equal to the lance-ovate awned scale. 2 f. High wet ground. C. Mch.

paniculata, (M. ♃.) spikelets sometimes dioecious, fuscous, ovate, condensed into a panicle: fruit lance-ovate, acuminate, gibbous, nerved, 2-toothed, ciliate-serrate at the margin, glabrous at the base, a little shorter than the ovate, acute, acuminate scale. 2 f. Damp. N. Mch.

decomposita, M. (W.) spike decompound or panicled; spikelets androgynous, upper ones staminate, alternate, crowded together, very many have two stigmas: fruit ovate, 3-sided, short-beaked, or acutish, small, black, glabrous, about equalling the white ovate acuminate scale.

teretiuscula, Gn. (♃.) spike twice or thrice compound, dense, somewhat pointed: spikelets clustered: fruit spreading, gibbous: stem roundish. Sometimes dioecious or polygamous. Wet. N. Mch.

muricata. (A. M. ♃.) spikes compound: spikelets somewhat in sixes, ovate, sessile, approximate; often the lower ones are remotish: fruit ovate or oblong-ovate, acuminate, plano-convex, diverging, bifid, scabrous at the margin, twice as long as the ovate scale, or equal to the lance-ovate one. 1 f. Woods, fences, &c. Var. *cephaloidea*, Dewey, has spikelets aggregated, somewhat in fives, closely sessile: fruit ovate, twice as long as the scale.

chordorrhiza, W. (♃.) spikelets aggregated into an ovate head, somewhat in fours and fives: fruit ovate-acuminate: leaves of the culms close-pressed: culm sub-ramose at the base: root procumbent, often rising above ground, which gives the ramose appearance to the general culm. (or the creeping root) upon which the upright and ascending culms are inserted. Found on St. Lawrence river, near Ogdensburg. The above description is translated from Persoon's synopsis, with some additions taken from a specimen presented to Prof. J. Hall, by Dr. Crawe, the discover of this locality. This is an European species mentioned by Prof. Dewey, as being found on Columbia river; from whom we are to expect an improved description soon.

incurva, Lightf. spikelets androgynous, staminate at the apex, aggregate in a globe-ovate head: fruit ovate, sub-conic, terete, sub-rostrate, entire at the mouth, a little longer than the acute, ovate scale. 2 i. R.

stenophylla, Whl. spikelets aggregated in a sub-globose head, staminate above: fruit longish, ventricose, plano-convex, nerved, margin serrulate: mouth 2-toothed, about equalling the ovate, acute scales. 3—6 i. R. A.

2. *Stamens at the base of the spikelets.*

bicolor, Al. (♃.) spikes in threes, ovate, sub-sessile, erect: fruit obovate, obtuse, sub-compressed: scales ovate, obtuse. 6 i. Labrador.

loliacea, (♃.) spikelets in threes, rather distant, minute, few-flowered, sessile: fruit oval or ovate, obtuse, sub-compressed, spreading, nerved, entire at the orifice, about twice as long as the acute, ovate scale. S.

deweyi, Sz. (J. ♃.) spikes somewhat in threes, sessile, ovate, alternate, somewhat distant, the upper one without bracts: fruit lance-oblong, beaked, acuminate, 2-forked, plano-convex, sub-scabrous at the margin, a little longer than the lance-oblong, hyaline, short-awned scale. 3 f. Slender and often procumbent. Rocky woods. N. Mch.

trisperma, Dewey. (J. ♃.) spikelets in threes, alternate, remote, sessile, ovate; upper one without bracts: fruit oblong, acute or beaked, plano-convex, entire at the orifice, many-nerved, sub-scabrous at the apex, somewhat spreading, longer than the oblong, acute, hyaline scale. 20 i. Wet. N. Mch.

scoparia, Sh. (M. ♃.) spikelets alternate, ovate, sessile, in fives; lower one with caducous bracts: capsule lanceolate, nerved, glabrous, erect, longer than the lanceolate acuminate scale. 20 i. Wet. Spikelets tawny. S. C. O. B. P. N.

lagopodioides, Sh. (M. ♃.) spikelets crowded, numerous, scales smallish: capsules oval-oblong, flattish-convex, acuminate, spreading, membrane-margined: orifice 2-toothed. 2 f. Wet. *S.* N.

straminea, W. (straw sedge. M. ♃.) spike compound; spikelets somewhat in sixes, ovate, oblong, alternate, sessile, sub-approximate: fruit broad-ovate, roundish, compressed, winged, ciliate-serrate, beaked, nerved, 2-toothed, a little longer than the lance-ovate scale. 18 i. Moist. Var. *brevior*, Dewey, fruit short-obovate and beaked, scarcely longer than the scale. Var. *minor*, Dewey, spikelets obovate, and fruit with serrulate wings, small. T. N. Mch.

foena, M. (♃.) spike compound; spikelets ovate, aggregated above: fruit ovate, acuminate, scabrous margined, 2-toothed, about equal to the lance-oblong scale. 2 f. Wet. *S.* Pennsylvania.

cristata, Sz. (J. ♃.) spikelets sessile, 6 to 14, closely aggregated, globose, bracted: fruit oblong-ovate, compressed, diverging, winged, beaked, acuminate, bifid, concavo-convex, ciliate-serrate at the margin, longer than the lance-oblong scale. 2 f. Moist. C. T. M. O. Mch.

stellulata, Sr. (W. M. ♃.) spikelets about in fours, ovatish, somewhat remote, sessile: fruit ovate, sub-acuminate, compressed, sub-bifid, scabrous at the margin, diverging and reflexed, a little longer than the ovate obtusish scale. 10 i. Wet. T. B. O. N. Mch.

scirpoides, Sh. (W. M. ♃.) spikelets in fours, sessile, ovate, obtuse; lower one bracted: fruit ovate, cordate, compressed, beaked, scabrous at the margin, longer than the ovate, acute scale. 10 i. Wet. Often very small. S. T. N. Mch.

curta, Gn. (O. M. ♃.) spikelets in fives, sub-approximate: scales sub-equal: fruit round-ovate, acutish, somewhat convex and obtuse angled; flat beneath, and round above: orifice 2-toothed. 20 i. Wet woods. Probably includes the *canescens*. Mch.

festucacea, Sh. (M. ♃.) spikelets sessile, alternate, ovate, approximate, 5 to 8-bracted: capsules roundish-ovate, beaked, winged, striate, 2 toothed, ciliate-serrate at the margin; larger than the lance-ovate, mucronate scale. 2 f. Moist. *S.* C. T. P. N. Mch.

ten'era, Dewey. (M. ♃.) spikes about in fives, obovate, remotish, alternate, sessile, slender below; the lowest bracted: fruit ovate, compressed, beaked, subulate, nerved, ciliate-serrate, larger than the lance-oblong scale. 2 f. Moist. N. Mch.

ovalis, Good. spikes androgynous, staminate at the base, about in sixes, oval, sessile, sub-approximate: fruit ovate-oval, compressed, acuminate: membrane, margined, bifid at the mouth, equalling the long ovate scale. 12—20 i. R.

3. *Stamens at the apex of the highest and lowest spikelets—the middle spikelets wholly staminate.*

siccata, Dewey. (J. ♃.) spikes compound; terminal spikelets obtuse: lower ones mostly in fours, ovate, acutish: fruit lance-ovate, acuminate, compressed, scabrous at the margin, bifid, nerved, about equal to the lance-ovate scale. 15 i. Sand. N.

D. *Stamens and stigmas on separate spikes.*

1. *Staminate spikes single.*

novae angliae, Sz (A. J. ♃.) staminate spike short, slender, arising from the same base with the upper fruit-bearing one: pistillate spikes 2 or 3, somewhat remote, sessile, ovate, alternate, few-flowered, bracted: fruit somewhat 3-sided-oval, sub-ventricose, ribbed, beaked, minutely pubescent, a little longer than the ovate, mucronate scale. 7 i. On Saddle Mt. 3000 feet high. C. N.

aurea, N. (W. M. ♃.) staminate spike short peduncled, without bracts: pistillate spikes in threes, oblong, lax-flowered, sub-peduncled: spikelets exsertly peduncled, sub-approximate, bracted: fruit obovate or pear-form, obtuse, nerved, sub-ventricose, entire at the orifice, longer than the ovate, acute or short-mucronate scale. 6 i. Wet. This is Schweinitz's *pyriformis*. Dewey. C. Mch.

saxat'ilis, (A. ♃.) spikes oblong, erect; scales obtuse: pistillate spikes about in threes, alternate, upper ones ovate, sessile, lower ones sub-oblong, short peduncled, bracted: fruit ovate-obtuse or oblong-oval, sub-compressed, orifice entire, sub-pubescent, about equalling the ovate, obtuse scale. This includes the *bigelowii* and *compacta?* V. W. Hemlock woods. Vermont.

compacta, Br. (   ) spikes distinct, staminate one solitary, rarely in pairs, erect, oblong; pistillate ones sub-binate: peduncles erect, oblong, sub-dense-flowered: fruit ovate, convex, short beaked, 2-lobed at the mouth, longer than the black ovate acutish scale. 6 i. R.

2. *Staminate spikes two or more.*

acuta, (W. M. ♃.) staminate spikes numerous or one, oblong erect—upper one peduncled, and the rest sessile and short: pistillate spikes somewhat in threes, oblong, cylindric, often recurved, sessile; the lower one peduncled, often staminate at the apex, lax or dense-flowered: fruit oval, compressed, acutish, glabrous, with the aperture entire and protruded, a little shorter than the lance-oblong scale. 2 f. Var. *erecta*, Dewey, pistillate spikes two, erect, sessile, straight, short-cylindric. Var. *sparsiflora*, Dewey, pistillate spikes oblong, sub-sessile, lax, flowers scattered. S. C. T. P. N. Mch.

cespitosa, (O. M. ♃.) staminate spikes sometimes solitary, erect, oblong; lower ones sessile: pistillate spikes in threes, oblong-cylindric, somewhat dense-flowered, sessile: often staminate at the apex: fruit oval and obovate, convex both sides, obtuse, glabrous, with the orifice entire and protruded, a little longer than the oblong obtuse scale: scale green with brown margins. 18 i. Var. *ramosa*, one, two, or three spikes branch off from the lower spike. S. C. Mch.

aquat'ilis, Wh. (M. ♃.) staminate spikes numerous, or one, erect: pistillate spikes short-peduncled, cylindric, about in threes, thick-clavate above, dense-flowered, sub-erect, sometimes staminate at the apex: fruit oval and sub-lens-form, glabrous, with the aperture entire and protruded, about equal to the ovate acutish scale. 2 f. Wet. Mch.

stricta, Gn. (M. ♃.) staminate spikes somewhat in pairs, erect, oblong, about 3-sided: pistillate spikes about in threes, cylindric, erect, often staminate at the apex, acutish above: the lower one short-peduncled: fruit ovate, compressed, acutish glabrous, with a protruded entire orifice, a little longer than the oblong acute scale. 15 i. Wet. Resembles *acuta*. C. N. T.

crinita, Lk. (O. M. ♃.) staminate spikes two (sometimes one) lax, often with scattered fruit; pistillate spikes rarely with three stigmas, somewhat in threes, oblong-cylindric, peduncled nodding, tapering below, often staminate above: fruit ovate, sub-inflated, somewhat 3-sided, shortly beaked, glabrous, with the orifice entire, about one third as long as the oblong, linear, scabrous-awned scale. Var. *paleacea*, pistillate spikes mostly in fours, flagelliform, recurved: scales cuspidate. Var. *gynandra*, pistillate spikes pendulous: fruit about half as long as the scale. S. Mch.

II. Stigmas three.

E. *Spikes androgynous.*

1. *Stamens at the summit.*

(Spike simple.)

polytrichoides, M. (M. ♃.) spike terminal, oblong: fruit somewhat in fives, oblong, alternate, somewhat 3-sided, glabrous, emarginate, twice as long as the ovate, obtuse (rarely mucronate) scale. 10 i. Wet. Is the *affinis* of the Arctic region a variety of this? C. W. T. N. Mich.

leucoglochin, Eh. (J. ♃.) spike about 4-flowered: staminate flower mostly solitary; fruit lanceolate, 3-sided-terete, much reflexed, hardly twice as long as the lance-oblong scale. 6 i. Wet.

fraseri, Sims. (A. ♃.) spike cylindric: fruit globe-ovate-triangular, entire at the orifice, striate, longer than the oblong scale. 1 f.

ursina, Dewey, spike single, staminate below, globose, dense-flowered: fruit ovate, lenticular, compressed, smooth, a little longer than the round-ovate scale. 3 i. A.

(Spikes several.)

ovata, Rudge. (Canada.) spikes in fours and fives, ovate, dense-flowered, peduncled, pendulous, bracted: fruit ovate, compressed, acuminate, bifid, equal to the ovate, acute scale. C.

(One radical peduncle, or more, single-spiked.)

wildenowii, Sh. (W. J. ♃.) stems 1 to 3 from the same root: one spike staminate above, ovate at the base: fruit 3 to 6, globe-ovate, beaked, sub-inflated, somewhat 3-sided: scales ovate, acute, inferior, filiform, very long, much longer than the spike—sometimes the staminate spike is distinct. 10 i. Dry woods. S. P. Y.

pedunculata, M. (Ap. ♃.) spikes about in fives, 3-cornered, distant, long-peduncled: fruit obovate, 3-sided, recurved at the apex, commonly glabrous, a little longer than the oblong or obovate, mucronate scale. 6 i. Woods. T. N.

2. *Stamens at the base of the spikes.*

squarrosa, (♃.) spikes one, two, or three, oblong-cylindric: fruit imbricate, ovate with a long beak, 2-toothed, spreading horizontally, glabrous and sub-squarrose, longer than the lanceolate scale. Var. *typhinoides*, (Dewey) spike long-cylindric, tapering above, mostly in pairs, often approximate. S. C. P. T. M. Mch.

atrata, (A. ♃.) spikes somewhat in fours, oblong-ovate, somewhat nodding, terminal one androgynous, staminate below; upper ones crowded, sessile; lower ones somewhat distant, peduncled, round-oval, compressed, glabrous, short-beaked, with a 2-lipped aperture, a little shorter than the oblong, acutish, black scale. 1 f. S.

F. *Terminal spike androgynous, pistillate at the summit: the others wholly pistillate.*

virescens, M. (green sedge. M. ♃.) spikes in threes, oblong, erect, alternate; upper one peduncled, beneath staminate; the rest bearing fruit, sub-sessile, bracted: fruit ovate, obtuse, ribbed, pubescent, nearly equal or exceeding the ovate, pubescent, mucronate scale. 20 i. Wet upland. Var. *costata*, has its fruit strongly ribbed, and its outer sheaths purplish-brown—leaves more numerous and larger. C. P. N. Mch.

carltonia, Dewey. spikes in threes, ovate, sessile, approximate: upper ones androgynous, lower ones staminate: fruit ovate, acutish, plano-convex, smooth, entire at the mouth, equalling the ovate acutish scale. 12 i. A.

arctica, Dewey. spikes sub-ternate, ovate-cylindric sessile; lower one peduncled, bracted, upper one staminate below: fruit ovate, plano-convex, obtuse, very short-beaked, entire at the mouth, a little longer than the ovate obtuse scale. 8 i. A.

hirsuta, W. (W. M. ♃.) spikes in threes, oblong, alternate, erect; upper one short-peduncled and staminate below; the rest sub-sessile, leafy-bracted: all approximate, dense-flowered: fruit 3-sided-ovate, nerved, obtuse, entire at the aperture, about equal to the ovate, acuminate, glabrous scale. Var. *pedunculata*, T. has oblong-cylindric, peduncled spikes, and slightly pubescent leaves. S. P. Y. C. T. N.

buxbaumii, Wh. (W. J. ♃.) spikes distinct or androgynous, about in fours: upper spike staminate, often androgynous, peduncled, clavate, fruit-bearing above; the rest fruit bearing, oblong, somewhat remote, sessile, bracted, sometimes with but 2 stigmas: fruit oblong-ovate and obovate, obtuse, somewhat 3-sided, nerved, glabrous at the sub-entire orifice, equalling the oblong, mucronate scale. 18 i. Wet. S. P. C. N. Mch.

viridula, Mx. (1) (♃.) spikes about in threes, oval, sessile, approximate: terminal one androgynous, staminate below: lower ones axillary: fruit ovate, 3-sided, glabrous, acuminate, about equalling the ovate acuminate scale. 1 f. Damp. Hudson's Bay.

formosa, Dewey. (M. ♃.) spikes oblong, thick, one-sided, in fours, distant, exsertly peduncled, nodding; upper ones staminate below: fruit oblong, 3-sided, sub inflated, acutish at both ends, with a sub-entire or 2-lobed orifice, twice as large as the ovate, acute scale. Yellowish green. 15 i. Wet. N. Mch.

gracillima, Sz. (2) (M. ♃.) spikes long, slender, distant, lax-flowered, in fours, exsertly peduncled; upper one staminate below, all bracted: fruit oblong, 3-sided, obtuse, with an oblique, somewhat 2-lobed orifice, larger than the oblong, obtuse, short-awned scale. 20 i. Moist. T. O. N. Mch.

torreyana, Dewey, not Sz. (3) (M. ♃.) fructiferous spikes somewhat in threes, oblong, with scattered flowers, remote, exsertly peduncled, sub-pendulous: fruit oblong, somewhat tapering at the base, 3-sided-inflated, nerved, acutish, short-beaked, with a 2-lobed orifice, about equal to the oblong, scabrous-awned scale. 18 i. N.

fuliginosa, Sh. (A. ♃.) spikes oblong, somewhat in fours; terminal one androgynous, staminate below; lower ones exsertly peduncled, nodding: fruit oblong, mucronate, bifid at the apex, longer than the oblong scale. T.

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(1) triceps, E. (2) digitalis, T. & Sz. (3) davisii, T.

vahlii, Schk. (M.) spikes sub-ternate, upper one androgynous, oblong, lower one staminate, the rest pistillate, ovate or oblong, sub-peduncled, short-bracted: fruit round-oval, somewhat 3 sided, entire at the mouth, greater than the ovate or oblong sub-acute scale. 6—10 i. R. A.

G. *Staminate spike simple.*

1. *Pistillate spikes sessile, or with enclosed peduncles.*

pubescens, M. (W. M. ♃.) spikes distinct: staminate spike 3-sided, sub-sessile: pistillate spikes in threes, oblong, sub-lax-flowered, erect, bracted, lower one peduncled: fruit ovate-3-sided, beaked with a sub entire orifice, pubescent, a little larger than the ovate-oblong, mucronate, keeled scale: leaves and culm pubescent. 18 i. Moist. C. P. N. T. Mch.

vestita, W. (M. ♃.) staminate spike is sometimes accompanied with a smaller one, cylindric-oblong, upper one elongated, peduncled: pistillate spikes in pairs, ovate-oblong, sessile, sub-approximate, bracted, sometimes staminate above: fruit ovate-oblong, somewhat 3-sided, nerved, short beaked, bifid, pubescent, a little longer than the ovate-oblong, acutish, sub-mucronate scale. 2 f. Wet. S. C. T. N.

varia, M. (O. Ap. ♃.) staminate spike erect, short or long: pistillate spikes in threes, ovate, sessile, sub-approximate, few-flowered: fruit oval-inflated or globe-3-sided, acuminate-beaked, bifid? rough-pubescent, about equal to the ovate, acuminate scale. 10 i. Dry woods. Var. *pedicellata*, (Dewey,) has the pistillate spikes short-peduncled, erect, and the lower bract leafy. Numerous variations in height, &c. are common to this plant. S. Mch.

marginata, M. (Ap. ♃.) staminate spike erect, peduncled, somewhat 3-sided: pistillate spikes in pairs, ovate, sub-sessile, sub-approximate, few-flowered: fruit globe-ovate, short beaked, somewhat 2-toothed, tomentose, about equalling the ovate-acuminate, or oblong-mucronate scale. 15 i. Dry woods. S. C. B. N. T. Mch.

flava, (M. ♃.) spikes distinct; staminate spike somewhat 3-sided, from the same base with the pistillate, and short-peduncled: pistillate spikes in threes, ovate-oblong, approximate, peduncles inclosed: fruit ovate, densely-imbricate, 2-toothed, ribbed, reflexed with a curved beak, larger than the lance-ovate scale. 18 i. Wet upland. P. W. C. M. B. N. T. Mch.

balduinia, Dewey, spikes distinct; staminate, solitary, cylindric, with a 3-nerved bract; pistillate ones in pairs or threes, 3-stigmas, ovate, roundish: upper ones sessile, extreme top ones often staminate, lower peduncle long, exsert: fruit ovate, 3-sided, sub-inflated, glabrous, nerved, long-beaked, 2 toothed, about twice as long as the ovate acutish scale. 1—2 f.

oederi, Eh. (M. ♃.) spikes distinct, or androgynous, or both; staminate spike erect; pistillate spikes about in fours, aggregated, sub-sessile, bracted, somewhat oblong: upper androgynous spike staminate above or below, or both: fruit sub-ovate, inflated, nerved, 2-toothed, with a subulate straitish beak, a little longer than the ovate scale. 8 i. Wet. Mch.

tentaculata, M. (O. M. ♃.) spikes distinct: staminate spike sub-sessile, bracted; pistillate spikes in pairs, or in threes, oblong, cylindrical, bracted; upper one sessile, the rest with short inclosed peduncles: fruit ovate, inflated, long beaked, 2-toothed, nerved, glabrous, diverging, closely compressed, twice as long as the small, ovate, rough-mucronate scale. 18 i. Wet, often forming bogs. S. Mch.

collinsii, N. (A. M. ♃.) spikes distinct; staminate spike erect; pistillate spikes somewhat in threes, sessile or with enclosed peduncles, distant, few-flowered: fruit sublate or somewhat inflated-lanceolate, long, beaked, reflex-spreading, glabrous, with an entire orifice, more than thrice as long as the lanceolate scale. 1 f. This is Dewey's *michauxii*, which he yields to Nuttall, and adopts his name. It is the *subulata* of Mx. not of Muhlenberg. S.

folliculata, (O. M. ♃.) spikes distinct; staminate spike oblong, peduncled; pistillate spikes somewhat in pairs, approximate, few-flowered, erect, sub-peduncled; the lower one sometimes remotely and exsertly peduncled: fruit conic-ovate, acuminate, beaked, 2-toothed, large, very glabrous, nerved, inflated, diverging, thrice as long as the ovate cuspidate scale. 20 i. Wet. S. Mch.

xanthophysa, Wh. (M. ♃.) spikes distinct; pistillate spikes thick, about in threes, distant, lax-flowered, ovate, peduncled, inclosed or exsert, leaf-bracted: fruit oblong, inflated, large, beaked, diverging, 2-forked at the orifice, longer than the lance-ovate, sub-awned scale. 2 to 5 f. Elevated wet ground. Var. *nana*, Dewey, has pistillate spikes in pairs, sub-approximate, and the fruit twice as long as the scale. 1 f. Var. *minor*, is like the last, but is still smaller, and has the pistillate spikes aggregated. P. N. Mch.

lupulina, M. (O. M. ♃.) staminate spike erect, slender, sub-sessile: pistillate spikes in threes and fours, ovate-oblong, very thick, or oblong-cylindric, short-peduncled, erect, dense-flowered, approximate; lower one exsertly peduncled and sometimes distant: fruit ovate-conic, inflated, long and conically beaked, bicuspidate, nerved, glabrous, about thrice as long as the lance-ovate, acuminate scale. 3 f. Wet. Var. *polystachia*, T. has the pistillate spikes in fives, long-cylindric; lower one remote and long-peduncled. *S.* Mch.

davisii, Dewey. (M. ♃.) spikes distinct: staminate spike sessile, short; pistillate spikes in pairs or in threes, approximating the staminate, ovate, sessile, few-flowered; often a radical one long peduncled: fruit globe-3-sided, tapering at the base, beaked, pubescent, with an oblique aperture, about equalling the ovate scale: culm decumbent. 8 i. Dry hills and woods. N.

nigro-marginata, Sz. (M. ♃.) spikes distinct; staminate spike sessile; pistillate spikes in pairs, ovate, sessile, closely approximating the staminate: culms (or peduncles) radical, long, somewhat in threes, arising from the same root: fruit ovate, somewhat 3-sided, conic-beaked, 2-toothed, pubescent, equalling the ovate acutish scale. Scales dark brown, with green keels. Hills. 6 i.

collecta, Dewey, (A. M. ♃.) staminate spike erect, lax-imbricate, slender, sub-peduncled; pistillate spikes somewhat in threes, ovate, few-flowered, bracted: lower one short-peduncled: fruit ovate, beaked, somewhat 2-toothed and pubescent, a little longer than the ovate, acute scale. 15 i. In small bogs in mountain swamps. Mch.

supina, spikes distinct: staminate one solitary: pistillate ones somewhat in pairs, roundish, sub-sessile, approximate, smooth, with a 2-lobed mouth about equalling the ovate scale. 6 i. A.

schkuhrii, W. spikes distinct: staminate one solitary: pistillate one sub-binate, sessile, approximate roundish, small flowered: fruit obovate, short beaked, globe-3-sided, scarcely equalling the acute ovate scale. A.

parryana, spikes distinct; staminate one solitary; erect, cylindric; pistillate ones in twos or threes, oblong, cylindric, dense flowered, erect: lower one peduncled, bracted: fruit obovate, flat, convex, obtuse, smooth, scarcely beaked, a little longer than the ovate, acute or mucronate scale. 18 i. A.

2. *Pistillate spikes exsertly peduncled.*

plantaginea, Lk. (W. Ap. ♃.) staminate spike erect, peduncled; pistillate spikes somewhat in fours, oblong, with flowers somewhat scattered, erect, remote, exsertly peduncled: fruit oblong, oval-3-sided, sub-cuneiform, tapering at both ends, curved back at the apex, entire at the orifice, longer than the ovate-cuspidate scale: leaves very broad, ensiform. Stem 3-sided; sheaths reddish-brown towards the base: leaves radical, green through the winter. Often mistaken for the next species. 18 i. *S.* N. T. Mch.

anceps, Sh. (O. M. ♃.) spikes distinct; staminate spikes oblong, short-peduncled; pistillate spikes somewhat in threes, sub-filiform, erect, alternate, with scattered flowers; peduncle 2-edged; upper spike sessile, and the rest somewhat remotely and exsertly peduncled: fruit oval-inflated, elongated at the base, tapering at the apex, alternate, somewhat 3-sided, glabrous, striate, curved back at the membranaceous or entire orifice, a little longer than the oblong, mucronate or ovate, acute scale. Stem acutely triangular and often 2-edged above. Woods. 1 f. *S.* Mch.

alba, Haenke. (W. ♃.) staminate spike peduncled: pistillate ones in pairs, about 5-flowered: bracts sheathing, membranaceous, hyaline: fruit globe-ovate, striate, beaked, obliquely truncate. 10 i. Var. *setifolia*, (Dewey,) has bristle-form, slender, somewhat stiffly-erect leaves, till near maturity. Rocky soil. Pownel, Vt., and Goat Island at Niagara Falls. T. N. Mch.

oligocarpa, Sh. (M.) spikes distinct: staminate spike without bracts; pistillate spikes in threes, somewhat 5-flowered, oblong, distant, peduncles long and lax: fruit ovate 3-sided, alternate, glabrous, nerved, curved back and short-beaked at the apex, entire at the orifice a little longer than the ovate scale. 1 f. Woods and hills. Var. *van-vleckii*, Sz. has the spikes longer, peduncles shorter, fruit more remote and smaller, with scales half as long. T. N.

conoidea, Sh. (1) (M. ♃.) spikes distinct; staminate spike oblong, peduncled; pistillate spikes in pairs or in threes, oblong, remote, erect, sub-dense-flowered, bracted; upper one sub-sessile: fruit oblong, obtusish, glabrous, nerved, somewhat diverging with an entire orifice, a little longer than the ovate subulate scale. Dewey says, this is the granularoides of Sz. 1 f. Moist. S. C. P. T. N. Mch.

granularis, M. (W. M. ♃.) staminate spike erect, sub-peduncled; pistillate spikes somewhat in threes, cylindric, dense-flowered; upper ones sub-sessile, often approximate; lower ones exsertly peduncled: fruit round-ovate, recurved at the apex and short-beaked, entire, nerved, hardly twice as long as the ovate, acuminate scale. 1 f. Wet upland. S. N. Y. Mch.

scabrata, Sz. (M. ♃.) spikes distinct; staminate spike 3-sided, peduncled; pistillate spikes somewhat in fives and remote, exsertly peduncled, cylindric, alternate, suberect, furnished with long leafy bracts: fruit oblong-ovate, beaked, sub-ventricose and bifid, scabrous, longer than the scale: scale lance-ovate, acuminate, sub-ciliate at the margin, and scabrous at the apex. 18 i. Wet. P. T. N. Mch.

blanda, Dewey, (2) (M. ♃.) spikes distinct; staminate spike erect, peduncled, 3-sided; pistillate spikes somewhat in threes, oblong, cylindric, with flowers scattered, alternate, bracted; upper one sub-sessile; lower one with a long 2-edged peduncle: fruit oval or obovate, somewhat 3-sided, nerved, recurved and entire at the apex; scarcely longer than the ovate, scabrous-mucronate scale. 1 f. Dry woods. N.

laxiflora, Lk. (M. ♃.) spikes distinct; staminate spikes oblong, slender, rarely bracted; pistillate spikes in threes, lax-flowered, remote, erect; upper one with a short and inclosed peduncle; lower one exsertly peduncled: fruit ovate or oblong-ovate, sub-obtuse, glabrous, ventricose, nerved, somewhat 3-sided, with an entire orifice, a little longer than the ovate-mucronate and scabrous scale. 15 i. Damp woods and meadows. S. T. P. N. Mch.

ustulata, Wh. (A. ♃.) staminate spike oblong, recurved; pistillate spikes in pairs, oval, nodding: fruit ovate, beaked, acuminate, flattish both sides, black, 2-toothed at the orifice, about twice as long as the ovate scale. Labrador.

flexuosa, Sh. (M. ♃.) spikes distinct: staminate spike filiform; pistillate spikes in fours, filiform, flexuose, nodding: flowers scattered: peduncles long: fruit lance-oblong, somewhat 3-sided, alternate glabrous, beaked, bifid, hardly twice as long as the lance-ovate scale. Moist woods and meadows. 18 i. S. B. P. N.

venusta, Dewey. ( ) spikes distinct: staminate one solitary cylindric; pistillate spikes in threes, long-cylindric, peduncle sub-lax-flowered, long-peduncled and exsert: fruit cone-ovate, terete 3-sided, nerved, scabrous-pubescent, 2-toothed; about twice as long as the obtuse ovate scale. 1—2 f. S.

sylvatica, Hd. (M. ♃.) spikes distinct; staminate spikes slender, short-peduncled; pistillate spikes somewhat in fours, filiform, with scattered flowers, remote, nodding, long-peduncled: fruit ovate, 3-sided, glabrous, sub-ventricose, somewhat long-beaked, bifid, scarcely exceeding the ovate, mucronate, membranaceous scale. Moist woods and meadows. 15 i. N. Mch.

digitalis, M. (W. M. ♃.) spikes distinct; pistillate spikes in threes, alternate, lax-flowored, with long, filiform, nodding peduncles: fruit oval 3-sided, obtuse, nerved, glabrous, longer than the ovate, acute scale. 6 i. Wet. S. P.

castanea, Wh. (doubtful as an American.) spikes staminate and pistillate, distinct; pistillate spikes thickish, short, sub-dense-flowered: peduncles long-exsert, recurved, bracted, lax-sheathed, leafy, distant; scales short: fruit oblong, slender, divergent, with a 1-lobed orifice: leaves hirsute.

washingtonia,[*] Dewey. (3) (A. J. ♃.) spikes distinct; staminate spike erect; pistillate spikes oblong, cylindric, sub-sessile, sub-remote, erect: flowers somewhat scattered: fruit oval, acute at both ends, compressed, short-beaked, glabrous, with one entire orifice, about equalling the oblong-ovate, acutish scale. 1 f. Damp. Found on the White Mts. N. H. near the summit of Mt. Washington, by Prof. Barratt.

halseyi, Dewey. (M. ♃.) staminate spike remote from the pistillate, accompanied with one or two smaller, arising near its base; pistillate spike solitary, (rarely another with stamens at its top,) interposed between it and the staminate one; oblong cylindric, erect, sub-lax-flowered: fruit oval-ovate, short beaked, somewhat 3-sided, inflated, nerved, glabrous, oblique at the orifice, a little longer than the ovate, acutish scale. 18 i. Wet upland. N.

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[*] Prof. Dewey will excuse me for shortening some of his personal and geographical names by substituting genitives. In this case, I believe, the adjective may be properly made Washingtonia, &c.

(1) granularoides, Sz. (2) conoidea, M. (3) nigra, Sz.

tetanica, Sh. (M. ♃.) staminate spike peduncled; pistillate spikes in pairs or in threes, remote; lower one long-peduncled: fruit obovate, recurved at the apex, entire at the orifice, longer than the ovate, obtuse scale. 10 i. Moist meadows. Dewey says, some mistake must have been made about this species; but it must remain as it is for farther examination. *S.* P. Y. W. N.

panicea, (♃.) spikes distinct, stigmas 3; staminate spike solitary; pistillate spikes somewhat in pairs: peduncles sub-exsert, remotish, lax-flowered; lower ones long-peduncled; fruit sub-globose, obtuse, entire at the mouth, a little larger than the acutish ovate scale. 12 i. B. Supposed by Dr. C. Pickering to have been introduced from Europe.

grayana, Dewey. (♃.) spikes distinct; staminate ones solitary, oblong: fruit bearing spikes with three stigmas to the style, somewhat in pairs, oblong cylindric sub-lax flowered, peduncle exsert: fruit ovate, oblong, sub-inflated, somewhat 3-sided, obtuse or acutish, mouth entire, longer than the obtuse oblong scale. *S.* Utica.

3. *Pistillate spikes peduncled and scarcely sheathed.*

miliacea, M. (M. ♃.) spikes distinct; staminate spikes elongated, slender; pistillate spikes in threes, elongated, cylindric, somewhat slender; upper one sub-sessile, the rest peduncled; all bracted, and nodding: fruit ovate-3-sided, glabrous, somewhat beaked, sub-bifid or entire at the orifice, longer than the oblong, emarginate or obcordate, scabrous-awned scale. Wet. *S.* P. N. Mch.

umbellata, Sh. (M. ♃.) spikes distinct; staminate spike short, with a long peduncle; pistillate spikes somewhat in fours, one often sub-sessile and near the staminate, the rest sub-radical, exsertly peduncled, all ovate and sub-umbelled: fruit ovate, acute at both ends, beaked, shortly 2-toothed, pubescent, equalling the lance-ovate scale. 1 to 4 i. In small tufts on dry hills. Var. *vicina*, (Dewey.) has one sessile, ovate, pistillate spike at the base of the staminate, with two or three radical peduncles, each bearing a pistillate spike, as in the common one. N. T. Mch.

miliaris, Mx. (A. ♃.) spikes distinct; staminate spike pallid, long-peduncled: pistillate spike sessile, oval, fuscous: bracts setaceous, short: fruit sub-spherical, smooth. Canada marshes.

pallescens, (♃.) spikes peduncled, sub-cylindric, nodding: bracts somewhat clasping, leafy and distant: fruit oval, very obtuse, terete: culm erect: staminate spike lanceolate: pistillate ones in threes. 1 f. N. T.

oakes'ii, Dewey. (A. J. ♃.) spikes distinct: staminate spike short-bracted, oblong, slender; pistillate spikes somewhat in pairs, ovate, distant, bracted; lower one sub-peduncled: fruit ovate, somewhat 3-sided, sub-inflated, nerved, short beaked, glabrous, entire at the orifice, a little longer than the lance-ovate scale. 1 f. Mch.

hystericina, W. (O. M. ♃.) spikes distinct: staminate spike 3-sided, bracted, peduncled; pistillate spikes somewhat in threes, alternate, somewhat distant, oblong, cylindric, bracted, nodding; upper one with an inclosed peduncle, the rest exsertly peduncled, and the lower one long-peduncled: fruit ovate, glabrous, inflated, somewhat 3-sided, beaked, nerved, with a 2-cleft orifice, twice as long as the oblong, emarginate, scabrous-mucronate scale. Plant yellowish-green, spikes becoming brown. 20 i. Wet. Often mistaken for the *tentaculata*. *S.* Mch.

limosa, (W. J. ♃.) spikes distinct; staminate spike without bracts; pistillate spikes somewhat in pairs, ovate or oblong, somewhat long-peduncled: flowers somewhat scattered, pendulous, remotish: fruit oval, compressed, very short-beaked, entire at the orifice, about equalling the ovate-cuspidate and lance-ovate or oblong scale. 1 f. Bracts with very short brownish sheaths. Var. *irrigua*, has sub-cylindric spikes, and long-acuminate, dark red pistillate scales. Var. *rariflora*, has sub-linear spikes, loose-flowered, with sub-circinal, pistillate scales. Var. *livida*, has shorter peduncles, few-flowered, oblong-pistillate scale about equal to the fruit, and obtusish, with sub-ovate-oblong fruit, and sub-incurved leaves. Var. *oblonga*, (Dewey) has spikes somewhat long-cylindric. Alpine. This species is the *lenticularis* of Mx. Dewey. N. Mch.

laxa, Wahl. ( ) spikes distinct; staminate one oblong, solitary; fruit-bearing ones oblong, with peduncles exsert, pendulous, sub-distant: fruit oval, 3-sided-depressed, short-beaked, entire at the mouth, equalling the ovate-oblong, obtuse scale. 6—10 i. A.

pseudo-cyperus, (O. M. ♃.) staminate and pistillate spikes distinct; staminate spike peduncled; pistillate spikes peduncled, cylindric, thick, pendulous: bracts somewhat clasping, long-leafy, sub-approximate: scales setaceous: fruit oblong, acuminate-beaked, reflexed, 3-sided, nerved, bicuspidate. 3 f. In clusters. Wet. *S.* Mch.

hitchcockii. Dewey. (A. M. ♃.) spikes distinct: staminate spike erect, peduncled; pistillate spikes somewhat in threes, erect: flowers few and scattered: lower spike remote: fruit somewhat 3-sided-oval, inflated, alternate both sides, recurved at the apex, striate, with a short truncate beak and aperture, about equalling the oblong or ovate-mucronate scale. 20 i. Mountain woods. N.

verna, (M. ♃.) staminate spike erect· pistillate spikes in pairs, ovate-oblong, approximating, sub-peduncled: fruit oval, somewhat 3-sided-acute, pubescent, a little shorter than the oblong-ovate, sub-mucronate scale. 6 i. Rocky hills.

H. *Staminate spikes two or more.*

trichocarpa, M. (M. ♃.) staminate spikes somewhat in threes, erect; lower ones sessile, rarely androgynous: pistillate spikes in threes, erect, long-cylindric, slender, sub-remote, sub-lax-flowered, exsertly peduncled, excepting that the lowest is nearly inclosed: fruit lance-ovate, sub-conic, inflated, nerved, beaked, 2-forked, dense pubescent, about twice as long as the lance-ovate scale. 2 f. Wet. Var. *turbinata*, (Dewey.) has the staminate spikes with oblong, mucronate, tawny scales: and the pistillate spikes with the upper ones nearly sessile, or with inclosed peduncles; and the fruit conic, inflated. *S.* N. Mch.

barrattii, T. (L. ♃.) staminate spikes somewhat in pairs: pistillate spikes somewhat in threes, oblong-cylindric, nodding, distant, upper one bearing stamens: fruit oblong, somewhat 3-sided, short-beaked, sub-scabrous, entire at the mouth, a little shorter than the lance-ovate, sub-obtuse scale. 1 f.

filiformis, Gn. (W. ♃.) spikes sub-sessile, oblong: bracts short-sheathed, leafy, remotish: capsules long-oval, villous, with a 2-forked beak; leaves convolute. Staminate spikes one or two lanceolate; scale of the fruit oblong, with a yellow nerve —pistillates with green nerved scale. 2 f. N. T. Mch.

ampullacea, Gn. (♃.) spikes short-peduncled, cylindric, thick, lax; staminate spikes numerous: bracts clasping, leafy, distant; scales lanceolate: fruit sub-globose, inflated, setaceous-beaked, larger than the scale, diverging: culm obtuse angled: leaves narrowish, with incurved margins. Staminate spikes three or more. O. N. T? Mch.

vesicaria, (W. M. ♃.) staminate spikes distinct, somewhat in threes, erect; upper one peduncled, the rest sessile: pistillate spikes in pairs or in threes, cylindric, alternate, erect, dense-flowered; upper ones sessile, lower ones sub-peduncled: fruit oblong-ovate sub-terete, inflated, subulate-beaked, spreading, nerved, glabrous, bi-cuspidate, scarcely twice as long as the ovate-cuspidate scale. 2 f. Wet. N. T.?

bullata, Sh. (M. ♃.) staminate and pistillate spikes distinct; staminate spikes in threes, longish, upper one peduncled, lower one bracted; pistillate spikes in pairs, exsertly peduncled, oblong, cylindrical, somewhat nodding: fruit ovate, globose, inflated, erect, glabrous, ribbed, with a sub-hispid 2-forked beak, twice as long as the lanceolate scale. 2 f. Wet bogs. Var. *cylindracea*, (Dewey) has long peduncled staminate spikes, and long cylindrical pistillate spikes, sub-dense-flowered: fruit long beaked. *S.* O. N. Mch.

schweinitzia, Dewey. (J. ♃.) spikes distinct; staminate spikes in pairs, upper one long, slender, peduncled; pistillate spikes in fours, oblong, cylindric, sub-approximate, with inclosed peduncles, somewhat pendulous, with long leafy bracts: fruit ovate-oblong, tapering above, beaked, inflated, 2-forked, nerved, glabrous, longer than the lanceolate, subulate, sub-setaceous scale. 10 i.. Wet, sandy.

retrorsa, Sz. (W. M. ♃.) spikes distinct; staminate spikes somewhat in threes, upper one long peduncled, slender, the rest short, small, often fruit-bearing at the base, sessile; pistillate spikes somewhat in fives, oblong, cylindric, approximating, sub-fascicled, with leafy bracts and peduncles inclosed, lower one often very remote, with long inclosed peduncles: fruit ovate, inflated, beaked, 2-forked, nerved, reflexed; twice as long as the lanceolate scale. 2 f. In clusters. Wet. O. T. Mch.

pellita, M. (W. M. ♃.) staminate and pistillate spikes distinct; staminate spikes in pairs, oblong, lower one sessile and bracted; pistillate spikes in pairs or in threes, cylindric, erect: fruit ovate, short-beaked, bicuspidate, somewhat 3-sided, hairy, about equal to the lance-ovate, awned scale. 20 i. Wet. *S.* T. N. Mch.

lacustris, W. (W. M. ♃.) spikes distinct; staminate spikes somewhat in fours, erect, lower ones sessile; pistillate spikes in pairs or in threes, fruit oblong-cylindrical, erect, nerved, glabrous, a little longer than the lance-oblong scale. 3 f. Wet. *S.* N.

oligosperma, Mx. (♃.) staminate spikes many; pistillate spike one, globular, sessile: fruit turgidly ovate, largish, few, acute: leaves involute-rushlike. Canada.

longirostris, T. (W. M. ♃.) spikes distinct; staminate spikes in threes, short, upper one peduncled, middle one sessile, lower one peduncled and furnished with an ovate, cuspidate bract; pistillate spikes in pairs or in threes, cylindric, pendulous, with scattered flowers somewhat distant, with long exsert peduncles, bracted: fruit ovate, sub-globose, inflated, glabrous, long-beaked and bifid, a little longer than the lanceolate or ovate-cuspidate scale. 2 f. Woods on river banks. N.

Arctic region.

[These species having been found in high northern latitudes in America, they are set by themselves. Probably many of them may be found farther south. 7 preceeding spec. marked A. should have been inserted below.]

1. STIGMAS TWO.

dioica, (A. ♃.) spike single, simple, dioecious, rarely androgynous, staminate above, oblong; pistillate spike oblong or ovate, sub-dense-flowered: fruit oval-ovate, convex both sides, nerved, erectish, serrulately margined above, equalling the ovate scale. 9 i. Var. *davallina*, has serrulate or hispid leaves. C.

remota, (A. M. ♃.) spikelets androgynous, staminate below, numerous, oblong-ovate, sub-sessile; lower ones distant with long, leafy, linear bracts beneath: fruit ovate, acuminate and bifid, or plano-convex and sub-bifid, a little longer than the lance-ovate scale. 18 i. Woods.

concolor, Br. (A. ♃.) staminate spike solitary: pistillate in pairs or in threes, erect, sub-sessile: fruit oval, mucronate, entire, smooth: scales all about the same color, obtuse: culm smooth: bracts auricled.

cryptocarpa, Meyer. spikes distinct; staminate ones above somewhat in threes and partly sessile; pistillate ones with 2 stigmas, somewhat in threes, cylindric, peduncled, and sometimes staminate above: fruit obovate, convex both sides, short-beaked, entire at the mouth, lance-oblong, twice or thrice smaller than the scale. 2 f. R.

festiva, Dewey. spikes with 2 stigmas, androgynous, above pistillate, somewhat in sixes, ovate, densely aggregated in a head: fruit ovate-oblong, beaked at the apex, serrulate, bifid, plano-convex, longer than the ovate, acutish scale. 6—10 i. A.

petasata, Dewey. spikes with 2-stigmas, androgynous, below staminate, somewhat in fours, ovate-oblong, cylindric, sub-sessile, approximate: fruit broad-lanceolate, acute at both ends, beaked or acuminate, bifid, subulate at the mouth, longer than the broad-ovate, sub-obtuse scale. 4—8 i. R.

marina, Dewey. spikelets androgynous with 2 stigmas, below staminate subternate approximate sessile, the lowest bracted: glumes all fuscous ovate-obtuse: fruit ovate sub-lanceolate, acutish plano-convex, a little longer than the scale. 4—6 i. A.

hookerana, Dewey. spike compound, spikelets androgynous, 2-stigmas above staminate, below sub-remote, ovate, sessile, many bracted: fruit lance-ovate, scabrous-beaked, sub-divergent plano-convex 2-toothed a little shorter than the lanceolate-ovate cuspidate scale. 12—18 i. A.

fulvicoma, Dewey. spikes androgynous, with 2 stigmas, above staminate, confert-aggregate, somewhat in fives, small fruit ovate, obtuse, compressed, smooth, a little longer than the broad-ovate obtuse scale. 4 i. A.

II. STIGMAS THREE.

mutica, Br. (A. ♃.) staminate spike solitary, with obtuse scales: pistillate spikes in threes, distant erect: peduncles sub-exsert: fruit oval, not awned, smooth, longer than the ovate, mucronate scale: leaves and bracts flat.

affinis, Br. (A. ♃.) one spike androgynous, staminate above, few-flowered, lax: scales lanceolate, acute, the bottom one awned: leaves flat. 6 i.

attenuata, Br. (A. ♃.) one spike androgynous, staminate above, dense; pistillate ones few-flowered, about in threes: scales all obtuse.

filifolia, N. (A. ♃.) one spike androgynous, staminate above, sub-cylindric, acute: fruit sub-globose, entire at the orifice, with a retuse scale: leaves filiform, involute, subulate. 4 i. This has been seen by Nuttall in Missouri hills, as well as in the Arctic region.

media, Br. (A. ♃.) spikes androgynous, staminate below, in threes, sub-sessile, approximate: fruit ovate, beaked, very glabrous, longer than the obtusish, ovate scale.

misandra, Br. (A. ♃.) spikes somewhat in threes, oval, peduncled, pendulous, alternate or rarely sub-umbelled: terminal one androgynous below, or rarely all over staminate: fruit lanceolate, acuminate, 2-toothed, denticulate at the apex, longer than the oval, obtusish scale. 6 i.

richardsonii, Br. (A. ♃.) staminate spike solitary, peduncled, erect; pistillate spikes in pairs, sub-sessile, approximate, with enclosed peduncles: fruit ovate, obtuse, pubescent, with an ovate acute scale: culm very scabrous. 6 i.

concinna, Br. (A. ♃.) staminate spike sessile, cylindrical, oblong; pistillate spikes in threes, sub-sessile, approximating: fruit 3-sided-obovate, very short beaked, 2-toothed, hispid pubescent, about twice as long as the obovate scale. 4 i.

capillaris, (A. ♃.) staminate spike solitary, peduncled, small; pistillate spikes somewhat in threes with long exsert peduncles, nodding, oblong, with few scattered flowers: fruit oval, beaked, acuminate at both ends, oblique at the orifice, scarcely twice as long as the ovate or oblong, obtuse, caducous scale. 6 i.

podocarpa, Br. (A. ♃.) staminate spike solitary; pistillate spikes in pairs, oblong, pendulous: fruit oval, very short-beaked, entire, smooth; seed pedicelled: lower leaves abbreviated.

aristata, Br. (A. ♃.) staminate spikes in pairs or many: pistillate spikes somewhat in threes, cylindric, distant, short-peduncled: fruit very glabrous, nerved, long-beaked, deeply bifid: scales awned: leaves villose beneath and on the sheaths.

petricosa, Dewey. spikes somewhat in fours, 3-stigmas, terminal ones androgynous, staminate above; lower ones exsertly peduncled: fruit lanceolate, smooth, acute, open at the mouth, shorter than the ovate-oblong obtusish scale. 10 i. R. summit.

membranacea, Hk. spikes distinct: staminate ones somewhat in twos, oblong-cylindric, with scales from the membranaceous divisions; pistillate ones with 3-stigmas, cylindric, somewhat in twos, the very uppermost staminate sessile, lower one often peduncled, all densely fruit-bearing, sessile and black: fruit ovate sub-quitretrous ventricose short-beaked, 2-lobed at the mouth, longer than the ovate obtuse scale. 12 i. A. R.

spectabilis, Dewey. spikes distinct, staminate one solitary oblong cylindric; pistillate ones somewhat in pairs, with 3 stigmas ovate-cylindric exsertly peduncled, sub-remote erect, lower one long-peduncled; leaf-bracted: fruit ovate, obtuse, nerved, 2-lobed at the mouth, very short-beaked, a little shorter than the lance-oblong mucronate scale. 8—12 i. A.

lanceata, Dewey. spikes distinct; staminate one solitary or in threes, cylindric, erect; pistillate ones somewhat in pairs, with 3 stigmas, cylindric erect sub-approximate peduncled, sub-lax-flowered bracted: fruit ovate obtuse plano-convex, scarcely beaked smooth, shorter than the broad ovate lanceolate scale. 12 i. A.

nigricans, Meyer. spike single, above staminate, with 3 stigmas, dense: scales oblong, obtuse: fruit dense, sub-divergent, ovate, somewhat 3-sided, acute beaked, equaling the oblong, obtuse scale. 4—6 i. R.

redowskiana, Meyer. spike single, dioecious, oblong: fruit linear-oblong, both ends tapering, smooth, mouth 2-lobed, hyaline, about twice as long as the ovate obtuse, scarious-margined scale: culm smooth, setaceous leaves in threes. 5—8 i. A. R.

backana, Dewey. spike single, above staminate; fruit with 3 stigmas, globe-ovate, sub-cone-beaked, fuscous, few, mouth scarious, very smooth, a little longer than the ovate, acute, membranaceous scale. 4—6 i. A.

drummondiana, Dewey. spike single, cylindric above, densely staminate, often solitary, staminate with 3 stigmas: fruit obovate, subtriquetrous, below flat nerved, smooth, short-beaked, alternate, and few-flowered, mouth closed, about equalling the ovate obtuse scale. 4 i. R. A.

podocarpon, B. spikes distinct, staminate solitary ovate, pistillate with three stigmas binate oblong-ovate, sub-lax-flowered pendulous bracted: fruit oval compressed, very short-beaked, entire, smooth sub-pedicelled, a little longer than the ovate obtuse scale (or emarginate and rcsteed.) 10—16 i. R. A.

Southern.

I. Stigmas two.

muskingumensis, Sz (J. ♃.) spike compound; spikelets androgynous, staminate below, oval-oblong, acutish at both ends, somewhat in eights, approximate: fruit lanceolate, compressed, nerved, winged, glabrous, acuminate, 2-toothed, more than twice as long as the lance-ovate scale. 30 i. Wet.

floridana, Sz. (♃.) spikes distinct; staminate spike solitary, sessile, small; pistillate spikes somewhat in fours, aggregated, ovate, sessile, bracted, lower one often sub-remote: fruit oval, somewhat tapering at the base, compressed, plano-convex, beaked, shortly bifid, equalling the ovate-oblong, scabrous-cuspidate scale. 6 i. Florida, Le Conte.—Sz. says the terminal spike is staminate above.

II. Stigmas three.

dasycarpa, M. (M. ♃.) spikes distinct: staminate spike sub-sessile, small; pistillate spikes somewhat in threes, sub-approximate, oblong, alternate, lower ones sub-peduncled. fruit 3-sided-ovate, or oblong, villose, nerved, longer than the ovate acuminate scale. 1 f.

elliottii, T. (1) (Ap. ♃.) staminate spike solitary, long bracted: pistillate spikes in threes, roundish, upper ones sessile, and the highest one staminate at the apex, the lowest one long-peduncled and nodding: fruit ovate, somewhat 3-sided, glabrous, with small punctures, nerved, long-beaked, 2-forked, much longer than the ovate, obtuse scale. 2 f. Wet sand.

glaucescens, E. (Ap. ♃.) staminate spike solitary, cylindrical, peduncled: pistillate spikes somewhat in threes, peduncled, cylindric, at length pendulous: fruit ovate, 3-sided, compressed, glaucous, beaked-bifid, about equalling the ovate, emarginate, mucronate scale. 2 f. Wet sand.

verrucosa, M. (M. ♃.) staminate spikes many or one: pistillate spikes somewhat in fives, erect, cylindric, staminate above, axillary, the lower one exsertly peduncled: fruit ovate, compressed, somewhat 3-sided, short-bifid, shorter than the ovate, sub-emarginate, mucronate scale. 3 f.

cherokeen'sis, Sz (W. ♃.) staminate spikes somewhat in threes, sub-cylindric, upper one larger and peduncled; pistillate spikes in fours, cylindric, sub-lax-flowered, distant, with long exsert peduncles, staminate above: fruit ovate, glabrous, somewhat 3-sided and compressed, nerved, long-beaked, bifid, a little larger than the ovate, long-acuminate scale. 1 f.

gigantea, Rudge. (Ap. ♃.) staminate spikes many or one: pistillate spikes in threes, cylindric, sub-lax-flowered, remote: upper one sessile, lower ones exsertly peduncled: fruit globe-ovate, conical, long-beaked, nerved, inflated, glabrous, bifid, spreading, twice as long as the oblong-ovate or lance-ovate scale. 2 f. Wet.

Remark. Students should be directed to examine the species of Carex when they have passed flowering, and before the fruit is quite ripe. The best time is when the fruit has arrived to its full size, but the seed has not yet become hard.

20—10. Ca'rica. 97. Papay. h. & s. ver. h. f. edi.

Southern.

papaya, (O. g. Ju. ♄.) leaves palmate, 7-lobed, middle lobe sinuate; divisions oblong acute: staminate flowers corymbed. 20 f.

19—12. Carpi'nus. 99. Betul. ast. feb. sto.

americana, W. (1) (hornbeam, blue beech. O. g. M. ♄.) leaves oblong-ovate, acuminate, unequally serrate; scales of the strobile 3-parted, the middle divisions with a lateral tooth. 20—40 f. *S.* Mch.

Carica. According to Linneus, because a native of Caria.

Carpinus. Celtic, *car*, wood, and *pin*, head, the wood being used for yokes.

(1) virginiana, Mx.

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(1) castanea, E.

17—1. Car'thamus. 54. Card. sec-stim. if nau. cat.

Exotic.

tinctorius, (false saffron, safflower. y. J. ☉.) leaves ovate, entire, serrate-aculeate. 1—2 f.
coeruleus, (blue saffron. b. ♃.) stem about 1-flowered: leaves lance-ovate, spine-toothed.

5—2. Ca'rum. 60. Umb. stom. aro.

Exotic.

carui, (caraway. w. M. ♂.) stem branching: leaves with ventricose sheaths: partial involucre none. 2 f.

19—12. Ca'rya. 94. Jugl. cat. ast.

tomentosa, Mx. (1) (white-heart hickory. W. Ap. ♄.) leafets about 9, lance-oblong, acuminate, slightly serrate, pubescent beneath, scabrous; terminal one sub-petioled: aments filiform, tomentose: fruit sub-globose, smooth; pericarp very thick; nut somewhat 6-angled; putamen thick, hard: nucleus agreeably tasted. *S.* T. Y. P.
alba, L. (2) (shag-walnut, shag-bark hickory. O. M. ♄.) leafets about 7, long-petioled, lance-oblong, acuminate, sharply serrate, villose beneath; the terminal leafets sessile: ament filiform glabrous: fruit globose, a little depressed: nut compressed, oblique. *S.* Mch.
sulcata, W. (3) (shell-bark hickory. W. Ap. ♄.) leafets about 9, oblanceolate, acuminate, serrate, pubescent beneath: the terminal leafets sub-sessile, tapering to the base: fruit roundish 4-keeled: nut sub-globose, a little compressed, smooth, long-mucronate. 60—80 f.. *S.* P. T. Mch.
amara, Mx. (bitter-nut. O. Ap. ♄.) leafets about 9, ovate-oblong, acuminate, sharply serrate, glabrous both sides; the terminal leafets short-petioled: fruit sub-globose, with the sutures prominent above: nut smooth, sub-globose, mucronate; putamen easily broken; nucleus bitter. *S.* Mch.
porcina, Mx. (pig-nut, broom hickory. O. M. ♄.) leafets about 7, lanceolate, acuminate, serrate, glabrous both sides; terminal leafets sub-sessile: fruit pear-form or globose: nut smooth; putamen very thick and hard; nucleus small. Var. *obcordata*, (4) has an obcordate nut. Var. *ficiformis*, has the fruit turbinate and nut oblong. 70—80 f. *S.* Mch.

Southern.

aquatica, Mx. (O. Ap. ♄.) leafets about 11, narrow, obliquely lanceolate, acuminate, sub-serrate, glabrous, sessile: fruit peduncled, ovate; sutures 4, prominent: nut roundish, compressed; putamen thin; nucleus bitter. 40—50 f.
myristicaeformis, Mx. (Ap. ♄.) leafets 5, ovate-lanceolate, acuminate, serrate, glabrous; terminal ones sessile: fruit oval, rugose, scabrous: nut oval, slightly acuminate, furrowed, very hard.
olivaeformis, W. (pecan-nut. W. Ap. ♄.) leafets numerous, (13—15.) lanceolate, sub-falcate, serrate; petioles not in pairs; fruit oblong, 4-sided: nut olive-shaped, smooth.

10—1. Cas'sia. 93. Leg. nut. ape. d-h. cat. feb.

marilandica, (wild senna. W. y. Au. ♃.) somewhat glabrous: leaves in 8 pairs, lance-oblong, mucronate: flowers in axillary racemes, and in terminal panicles: legumes linear, curved. An excellent mild cathartic. Bw. River alluvion. 2—4 f. *S.* T. diu. cat. as best senna. Mch.

Carthamus. From its Arabic name *gortom*, signifying to paint, on account of the fine color yielded by the flowers.

Carum. From Carias, where it is indigenous.

Carya. Gr. *karua*, the walnut, of *kara*, headlike, round, from the shape of the fruit.

Cassia. An ancient name from Heb. *kasian*, to tear off, it being stripped off the tree, for market.

(1) alba, W. (2) compressa, W. squamosa, Mx. arb. (3) laciniosa, Mx. arb. mucronata, Mx. (4) These two varieties are the species obcordata and glabra of W.

chamæcrista, (cassia, partridge pea. W. y. Ju. ☉.) somewhat glabrous: leaves linear, in many pairs, the glands on the petioles sub-pedicelled: two of the petals spotted: legumes pubescent. A most elegant plant. 8—16 i. Dry sand, &c. 12 i. *S.* C. T. Y. P. B. D. Harper's ferry. Chicago.

nictitans, (wild sensitive plant. W. y. Ju. ☉.) spreading, pubescent: leaves in many pairs, linear; glands of the petioles pediceled; peduncles short, supra-axillary, 2 or 3-flowered: flowers pentandrous. The leaves of this species, and of the *chamæcrista*, possess a considerable degree of irritability. 12 i. *S.* Y. P. C. O. T. N.

fasciculata, (y. Ju. ☉.) somewhat glabrous: leaves at the summit in 9 pairs: gland sessile near the middle of the petiole. fascicles many-flowered, lateral: petals and stamens of the same color: legumes glabrous, ascending, arched. *S.* Y. P.

Exotic.

senna, (egyptian senna, false senna, y. Ju. ☉.) leaves in 6 pairs: petioles glandless: legume reniform.

Southern.

tora, W. (W. y. Ju. ☉.) glabrous: leaves in 3 pairs, obovate, ciliate: terminal ones largest; a subulate gland between the lower pair: peduncles few-flowered, axillary; legumes curved. 3 f.

occidentalis, W. (y. M. ♃. ♄.) glabrous; leaves in 5 pairs, ovate-lanceolate, acuminate, scabrous along the edges: peduncles clustered, few-flowered, axillary: legumes compressed, falcate. 12—18 i.

ligustrina, W. (y. Ju. Au. ♃. ♄.) pubescent: leaves in 7-pairs, lanceolate: exterior ones smallest; peduncles terminal, somewhat paniculate: legume oblong slightly falcate. 6 f.

linearis, Mx. (y. J. ♃.) glabrous: leaves in 5 or 6 pairs, ovate, acute: peduncles axillary, few-flowered: legume terete.

procumbens, W. (y. J. ☉.) leaves in many pairs, without glands: stem procumbent. Flowers small.

aspera, M. (W. L. S. ☉.) strigose, rough: leaves in many pairs, linear, lanceolate, ciliate: peduncles few-flowered, above the axils: stamens 9—7: three longer than the rest. 1—3 f.

19 12. Casta'nea. 99. Cupu. emo. ton. f. nut.

vesca, Var. *americana*, (chesnut. g. J. ♄.) leaves lance-oblong, sinuate serrate, with the serratures mucronate, glabrous both sides. Large tree. 60 f. *S.* N. T. Y. C. Mch.

pumila, (chinquapin. g. J. ♄.) leaves oblong, acute, mucronate, serrate, with white down beneath. Small tree. *S.* P. M. D. Florida.

Southern.

nana, M. (1) (M. ♄.) leaves oval-lanceolate, rather obtuse, mucronately-serrate, shining on the upper surface, slightly tomentose beneath. 1—2 f.

13—2. Castille'ja. 36. Rhin. aro. ton.

occidentalis, T. & J. (W. ♃.) stem simple, pilose: leaves linear-lanceolate, narrowing towards the apex, minutely pubescent, entire, acutish: flowers spiked, sessile: corol scarcely exceeding the calyx; bracts 3-cleft; divisions erect.

Castilleja, Euchroma.

2—1. Catalpa. 40. Bign. nut. fom. ton.

cordifolia, Duham. (2) (M. w. & y. ♄.) leaves simple, cordate, entire, by threes: flowers in panicles. 40—50 f. *S.* O. P. C. Troy, cultivated.

Castanea. From Castanea, a city of Thessaly, whence chesnuts were first brought, and hence they were called *kastanon*.

Castilleja. In honor of Castillejo, a Spanish botanist.

Catalpa. The Indian name of this plant.

(1) alnifolia, N. (2) syringaefolia, Ph. Bignonia catalpa, W.

19—1. Cauli'nia. 7. Fluv. ton—.

flexilis, (water knot-grass. Au. ☼.) leaves in sixes, toothed at the apex, spreading. Immersed in ditches, &c. *S.* T. Y. P. C. N. Mch.

fragilis, (S. ☼.) leaves in threes or opposite, linear-subulate, recurved, aculeate-toothed, rigid. Immersed. *S.* P.

5—1. Ceano'thus. 95. Rham. h. ast. sto.

americana, (New Jersey tea. O. w. J. ♄.) leaves ovate, acuminate, serrate, 3-nerved, pubescent beneath: panicles axillary, long-peduncled, sub-corymbed. *S.* Var. *tardiflora*, leaves heart-ovate, downy beneath: panicled with elongated thyrse. Mch.

ovalis, Bw. (1) (w. ♄.) leaves oval, with glandular serratures, 3-nerved; nerves pubescent beneath: panicle corymbose, abbreviated. Canada. Lake Champlain.

sanguinea, Ph. (W. w. M. ♄.) leaves obovate, serrate, pubescent beneath: panicle axillary, compact, short-peduncled; pedicels aggregate. 3 f.

oreganus, N. (w.) leaves broadly ovate, sub-cordate, mostly obtuse, serrate, membranaceous, somewhat pubescent beneath: thyroid corymbs in lateral panicles: fruit small, globose, obtusely 3-lobed, without pulp. 4—12 f. Oregon.

velutinus, Doug. (w.) branches somewhat pendulous: leaves orbicular, elliptical, or elliptical-ovate, obtuse, sub-cordate, glandularly crenate-serrulate, coriaceous, glabrous and shining above, velvety canescent and strongly 3-ribbed beneath: panicles axillary, elongated on rather long peduncles. 3—8 f. Oregon.

Southern.

microphylla, Mx. (w. Ju. ♄.) leaves very small, obovate, nearly entire, clustered, glabrous: racemes corymbose, terminal. 1—2 f.

serpyllifolia, N. ( ) branches filiform: leaves small, elliptic-ovate, serrulate, obtuse; petioles and nerves strigose beneath: panicles pedicelled, axillary, few-flowered: flowers conglomerate.

incanus, T. (w.) branches short and very thick, minutely canescent, leaves broadly ovate, obtuse, mostly sub-cordate, coriaceous, crenate-serrulate, minutely velvety above, whitish and canescent beneath: clusters sub-sessile, axillary and terminal. California.

hirsutus, N. ( ) somewhat spiny and almost hirsute; particularly the young branches: leaves cordate-ovate, glandularly-serrate, nearly sessile, rather obtuse: panicle terminal, elongated, leafy; disk obscurely pentangular: protuberances of the ovary small.

oliganthus, N. (♄. w.) stem and branches villose: leaves elliptical-ovate nearly glabrous above, villose beneath, glandularly serrulate, rather obtuse: panicles lateral and terminal, very short, few flowered, naked or leafy, towards the base, persistent: disk pentangular: ovary with 3 protuberances at the angles, nearly as large as itself. California.

thyrsiflorus, Eschs. (♄. b.) stem straight and erect, with angular branches: leaves ovate-oblong, obtuse, rather thick, strongly veined beneath, glandularly serrate, glabrous or slightly hairy above, canescent beneath and slightly pubescent on the veins: flowers in ovate or oblong very dense clusters, on long, more or less leafy, axillary and terminal peduncles. A small tree. California.

divaricatus, N. (Ap. ♄. b.) somewhat thorny, nearly glabrous: leaves elliptical-oblong or oblong-ovate, lucid, somewhat obtuse, minutely and glandularly serrate, pubescent beneath: flowering branches divaricate: leafy thyrse interrupted, rather loose: ovary sub-globose, without protuberances. California.

spinosus, N. (♄. w. b.) glabrous: branches thorny: leaves cuneate-oblong, or oblong, obtuse or emarginate, lucid, entire, or obscurely glandularly serrate towards the apex: flowering branchlets divaricate, leafy: thyrse oblong: ovary sub-globose, without protuberances. California.

cuneatus, N. (March. ♄. w.) branchlets pubescent: leaves fascicled from numerous very short lateral branches, apparently opposite, thick and coriaceous, narrowly oblong-cuneiform, entire, obtuse, glabrous above, whitish and minutely tomentose-

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Caulinia. In honor of F. Cavolini, a Neapolitan botanist.

Ceanothus. Gr. *keanŏthos*, of Gr. *keo*, to prick, *anŏthĕn*, above, because it pricks at the extreme parts.

(1) ovatus Dc.

canescent beneath: flowersin lateral, pedunculate, nearly simple, umbels: fruit with 3 projecting appendages at the summit. 6—10 f. California.

macrocarpus, N. (♄.) branchlets canescent with a rusty-colored pubescence: leaves alternate, rather crowded, sometimes a little fascicled in the axils, thick and coriaceous, obovate-cuneate, entire, often emarginate, glabrous above, whitish and minutely tomentose-canescent beneath: flowers in lateral pedunculate nearly simple umbels: fruit very large, with 3 projecting horn-like appendages at the summit. 3—6 f. California.

verrucosus, N. (w.) branches verrucose and somewhat canescent with a rusty-colored pubescence: leaves alternate, approximate or crowded, very thick and coriaceous, roundish-obovate or cuneate oval, often emarginate, the younger ones sometimes obscurely serrulate, glabrous above, minutely tomentose-canescent beneath: umbels axillary, few-flowered, naked: fruit with minute protuberances at the angles. California.

rigidus, N. (♄. March. b.) young branches pubescent: leaves opposite and crowded, cuneate-obovate, mostly retuse, thick and coriaceous, mucronately crenate-toothed, glabrous above, somewhat canescent beneath: umbels axillary and terminal, few-flowered, sessile: pedicels at length elongated: ovary with 3 protuberances. 6 f. California.

dentatus, T. (w.) branches tomentose with rusty hairs: leaves much crowded and fascicled, coriaceous, oblong-cuneiform, retuse, toothed, with revolute margins, more or less hairy on both sides: peduncles elongated, nearly terminal: thyrse oblong, of numerous umbel-like fascicles: ovary with 3 protuberances at the summit. California.

papillosus, T. (b.) branches tomentose: leaves narrowly oblong, much crowded, fascicled in the axils, densely and softly tomentose beneath, glandularly denticulate on the margin: peduncles aggregated: clusters somewhat capitate: ovary triangular, the angles projecting at the summit. California.

5—1. CELAS'TRUS. 95. Celas. cat-sti.

scandens, W. false bittersweet, staff tree, red root. O. y-w. J. ♄.) stem twining: leaves oblong, acuminate, serrate: racemes terminal and axillary. Retains its scarlet berries through the winter. Mch.

Southern.

bullata, W. (w. Ju. ♄.) unarmed: leaves ovate, acute, entire: panicle terminal. 20 f. Virginia.

5—1. CELO'SIA. 30. Amar. diu. nut.

Exotic.

cristata, (cockscomb. r. J.) leaves ovate, acuminate, stipules falcate: common peduncle striated: spike oblong, compressed.

5—2. CEL'TIS. 99. Ulmo. emo. ton.

occidentalis, W. (nettle tree, pompion berry. W. w. M. ♄.) leaves ovate, acuminate, equally serrate, except near the base: seabrous above, rough-haired beneath: fruit solitary. Var. *integrifolia*, leaves entire: bark of the tree not rimose. 20 f. S. T. N.

crassifolia, W. (hag-berry, hoop ash. W. w. M. ♄.) leaves ovate, acuminate, unequally serrate, unequally cordate at the base, sub coriaceous: peduncles about 2-flowered. 20 f. S. N. T. P. B.

pumila, Ph. (1) (W. g. M. ♄.) leaves ovate, acuminate, equally serrate, unequal at the base, smoothish on both sides: the younger ones only pubescent: peduncles mostly 3-flowered: fruit solitary. Berries brown and glaucous. 6 f. S.

reticulata, T. & J. (W. ♄.) leaves broad-cordate, pubescent, sub-coriaceous, somewhat entire, obtusish, unequal at the base, papillose-scabrous above, reticulate, prominent veins beneath: peduncles 1-flowered.

Celastrus. Gr. *kélastres*, a tree of which pails were made, of *kela*, a dart.
Celosia. Gr. *kelos*, singed: from the appearance of the flowers.
Celtis. One of the names anciently given to the Lotus. Pliny.
(1) occidentalis. Var. pumila, M.

3—1. CEN'CHRUS. 10. Gram. far-ton.

echinatus, L. (burr grass, hedge-hog grass. Ju. Au. ☉.) spike with the flowers approximated: involucre sub-globose, villose: culm compressed. Erect or procumbent. Sandy soil. 1—2 f. S. Var. *tribuloides*, W. (L.) spikes and margins of the sheaths white-pubescent. 1 f. S. P. Y. N. H. D. Mch. N. W. Lakes.

17—3. CENTAU'REA. 54. Card. sec. sti. feb.

Exotic.

cyanus, (blue bottle. b. w. r. J. ☉.) scales of the involucre serrate: leaves linear, entire; lower ones toothed. Naturalized. 2—3 f.

jacea, (knapweed. p. Ju. ♃.) leaves lanceolate, entire; radical ones sub-dentate: branches angular: involucre scarious. Naturalized.

benedicta, (blessed thistle. y. J. ☉.) scales of the involucre doubly armed with spines, woolly, bracted: leaves somewhat decurrent, toothed, spiny. Naturalized.

solstitialis, (St. Barnaby's thistle. y. Ju. ☉.) involucre palmate-spinose, solitary; spines straight: leaves hoary, lance-linear, decurrent, entire; radical ones lyrate. Naturalized.

nigra. L. (black knapweed. p. Au. ♃.) scales of the involucre ovate, with an erect capillary fringe: lower leaves lyrate-angular: upper ones ovate. Naturalized. 2 f.

calcitrapa. (☉.) scales of the involucre somewhat doubly spinous, sessile: leaves pinnatifid, linear, dentate: stem pilose.

centaurium, (great centaury. ♃.) leaves pinnate, glabrous: leafets sharply and doubly serrate, decurrent: involucre smooth.

scabiosa. (scabrous centaury. ♃.) leaves pinnatifid, roughish; divisions lanceolate, spreading, acute pinnatifid at the base: involucre ciliate.

suaveolens, (yellow sultana. ☉.) leaves lyrate pinnatifid: involucre smooth.

moschata, (sweet sultana. ☉.) leaves slightly pinnatifid: lower divisions mostly entire: involucre smooth.

Southern.

americana. N. (W. ☉. or ♂.) stem somewhat branching, sulcate: leaves sessile; lower ones oblong-ovate, repand-toothed: upper ones lanceolate, acute: leafets of the involucre furnished with recurved pinnate appendages: peduncles thick at the apex. 4—6 f.

4—1. CENTAUREL'LA. 34. Olea. ton—. feb.

paniculata, M. (1) (screwstem. O. w. Ju. ☉.) stem sub-ramose, 4-sided, and becoming spirally twisted: peduncles opposite, lower ones ramose. Stem almost leafless. Damp. 5—6 i. Mch.

Southern.

verna, Mx. (2) (w. March. ☉.) stem simple, few-flowered, (1—3:) corol thrice as long as the calyx: style as long as the germ. 4—8 i.

aestivalis, Ph. (Ju. ☉.) stem simple: peduncles opposite, simple; divisions of the corol spatulate, abruptly acute, thrice as long as the calyx: style the length of the germ. 3—4 i.

16—10. CENTRO'SEMA. Legu. nut. asc. ape.

Southern.

virginiana, Bentham. (Ju. Aug. v.) glabrous or somewhat pubescent: stem very slender, angled, twining: leaves trifoliate; leafets varying from oblong-ovate to linear, reticulately veined: peduncles rather shorter than the leaves, 1 to 4-flowered: segments of the calyx linear-subulate, much longer than the tube, somewhat exceed-

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Cenchrus. Gr. *kegchros*, millet, this plant resembling millet.

Centaurea. From Chiron, the centaur, who used it to cure a wound caused by the poisoned arrows of Hercules.

Centaurella. A diminitive of Centaurea.

(1) autumnalis, Ph. Bartonia paniculata, Muh. tenella, Ph. Sagina. virginica. W. Andresoria paniculata. B. (2) vernalis, Ph.

ing the ovate, acuminate bracteoles, the 2-upper united at the base: legumes narrowly linear, very long. Virginia, to Florida and Louisiana.

plumieri, Bentham. ( ) stem frutescent, the branches puberulent: leafets broadly ovate, with a short obtuse acumination, broadly rounded at the base, rather coriaceous, glabrous: peduncles 2 to 3-flowered, shorter than the petiole: bracteoles coriaceous, obtuse, entire, about twice the length of the calyx, very short: legume thick. New Orleans.

4—1. Centun'culus. 35. Primu. acr—. ton—.

Southern.

lanceolatus, Mx. (bastard pimpernel. O. r. March. ☉.) leaves lanceolate, oval and obovate, acute: flowers axillary, sessile: stem prostrate. 2—3 i.

minimus, N. (W. Ju.) stem simple or with a single branch, sub-angular: leaves alternate, spatulate-ovate, acute. flowers sub-sessile. Often pentandrous. 4—6 i.

4—1. Cephalan'thus. 57. Cinch. ton. feb. like per. b.

occidentalis, L. (button bush, pond dogwood. O. w. Ju. ♄.) leaves opposite and in threes, oval, acuminate. Inflorescence a round head. Swamps. Var. *pubescens*, has the leaves and branchlets pubescent. 4—8 f. S. Mch.

13—1. Ceran'thera. 42. Labi. stom. ton.

Southern.

linearifolia, E. (r-w. S. ☉.) stem glabrous, branching: leaves opposite, linear, sometimes clustered: racemes terminal: peduncles opposite. 12. i.

10—5. Ceras'tium. 82. Cary. emo.

vulgatum, L. (mouse-ear, chickweed. O. w. Ap. ☉.) hirsute, viscid, cespitose: leaves ovate: petals oblong, about equal to the calyx: flowers longer than the peduncle. 6—10 i. S. Mch.

viscosum, L. (sticky chickweed. W. w. J. ☉.) hairy and viscid, spreading: leaves lance-oblong: flowers shorter than their pedicels: petals obovate, scarcely longer than the calyx. 4—6 i. S. P. Y. T. D. C. B. Mch.

alpinum, L. (A. w. J. ♃.) leaves lance-oval: panicle dichotomous, few-flowered, bracted: capsule oblong, recurved. 6 i.

nutans, R. (1) (W. w. J. ☉.) viscid, pubescent: stems erect, striate: leaves elongated, distant, oblong-linear, acute: radical ones spatulate: petals oblong, 2-cleft at the apex, longer than the calyx: peduncles at length much longer than the flower. 6—12 i. S. P. Y. R. O. D.

oblongifolium, T. (W. w. J. ♃.) cespitose, pubescent: stems erect, terete: leaves lanceolate-oblong, sub-acute, shorter than the joints: flowers terminal, shorter than their pedicels: petals obovate, bifid at the tip, twice as long as the calyx. 6—12 i. D. T.

arvense, W. (W. w. J. ♃.) pubescent, cespitose: leaves lance-linear, obtuse, ciliate at the base, shorter than the internodes: petals obcordate, twice as long as the calyx: sepals obtuse. 6 i. P. T. R.

bracteatum, R. ( ) pubescent: stem weak, cylindric: leaves oblong, sub-mucronate: flowers erect, dichotomous, with ovate, acute bracts: petals nearly equalling the calyx: capsules erect, without nerves. Pennsylvania. Doubtful.

stellaroides, Mocino. ( ) stem erect, about 3-flowered: leaves oblong, acuminate: pedecels 1-flowered, terminal: sepals lanceolate: petals semibifid, twice the length of the calyx. Nootka Sound.

Centunculus. Lat. *centunculus*, a diminutive of *cento*, a threadbare garment, perhaps alluding to its worthlessness.

Cephalanthus. Gr. *kephalē*, head, and *anthos*, flower, alluding to the inflorescence.

Ceranthera. Gr. *keras*, horn, and *anthos*, flower: anthers bearing horns.

Cerastium. From Gr. *keras*, horn, an allusion to the cornute form of the capsule of many species.

(1) glutinosus, N. longepedunculatum, M.

beeringianum, Cham & Schlecht. (♃.) hirsute, viscous above: stems decumbent and leafy at the base: the flowering ones erect, elongated and few-leaved: leaves oblong, rather acutish; flowers at length nodding: sepals elliptical, acute: petals and capsule half as long again as the calyx. 8 i. Kotzebue's Sound.

rigidum, Ledeb. ( ) hirsute: stem erect, simple below, dichotomous towards the summit: leaves oblong, acute: peduncles elongated: sepals lanceolate, acute: petals bifid, longer than the sepals: capsule oblong, smooth, more than twice the length of the calyx. Unalaschka.

12—1. Cerasus. 92. Amyg. h. b. s. feb. poi. (prus. acid.)

virginiana, (1) wild cherry, rum cherry, cabinet cherry. O. w. M. ♄.) racemes erect, elongated: leaves oval-oblong, acuminate, unequally serrate, glabrous both sides: petioles generally bearing 4 glands. In open fields the limbs of this tree spread out into an elegant oval top: but in dense forests it grows to a very great height, with a few contracted branches. 30—60 f. *S.* Mch. *Prunus, virginiana.*

serotina, (2) (choak cherry. O. w. J. ♄.) flowers in lax racemes: leaves oval, short-acuminate, opake, doubly and acutely serrate; mid-rib bearded on each side towards the base; petiole with 2 glands. This and the preceding species have been confounded by many botanists. T. 10—20 f. *S.* *Prunus, serotina.*

canadensis, (w. ♄.) flowers in racemes: leaves glandless, broad lanceolate, rugose, sharply serrate, pubescent both sides, tapering into the petiole. *S.* P. Canada. *Prunus, canadensis.*

obovata, Bw. (3) (w. M. ♄.) racemes spreading: leaves obovate, acute, very sharp-serrate, glabrous. Fruit red, bitter and astringent. A large shrub. K. Mch. *Prunus, obovata.*

emarginata, Doug. ( ) racemes corymbose; pedicels elongated, both the pedicels and segments of the calyx ovate, obtuse, reflexed, glabrous: leaves oval, minutely tooth-serrate, glabrous; acute and biglandulous at the base; obtuse and often emarginate at the apex: fruit globose. 4—8 f. R. *Prunus, emarginata.*

mollis, Doug. (♄.) racemes shortish: racemes and calyx down-hairy (segments reflexed) leaves obovate-oblong, crenate, pubescent beneath: fruit ovate. R. *Prunus mollis.*

pennsylvanica, A. (4) (W. w. M. ♄.) flowers sub-corymbed: pedicels elongated: leaves oval-oblong, acuminate, erose-denticulate, smooth: petioles with 2 glands: branches punctate. 8—12 f. *S.* P. Y. B. N. Mch. *Prunus, pennsylvanica.*

pygmæa, W. (american sloe. O. w. M. ♄.) umbels sessile, aggregated, few-flowered: leaves oval-ovate, acute, glabrous both sides, sharply serrate, 2 glands at the base. 3—4 f. *S.* *Prunus, pygmæa.*

pubescens, Ph. (5) (M. ♄.) umbels sessile, aggregated, few-flowered: peduncles and calyx pubescent: leaves short-oval, serrulate: drupe spherical. 2—3 f. *Prunus, pubescens.*

pumila, (w. M. ♄.) umbels sessile, aggregate, few-flowered: calyx acute: branches wand-terete: leaves narrow-lanceolate, serrate above, the under sides pale. 2—3 f. *S.* P. W. N. *Prunus, pumila.*

depressa, Ph. (sand cherry. W. w. M. ♄.) umbels sessile, aggregate: few-flowered-calyxes obtuse: branches angled, depressed, prostrate: leaves wedge-lanceolate, remotely serrate, glabrous, glaucous beneath: fruit ovate. Is this the pumila? P. T. N. D. Canada. *Prunus, depressa.*

? *susquehanna*, W. (w. M. ♄.) peduncles solitary: leaves obovate-oblong, glaucous beneath, serrate, entire at the base. P. *Prunus, susquehanna.*

littoralis, Bw. (6) (beach plum. L. w. M. ♄.) umbels crowded, few-flowered: peduncles and calyx sub-pubescent: leaves oval, acute, serrate, with the veins pubescent beneath. The size and color of the fruit is subject to considerable variation. Bw. *Prunus, littoralis.*

cerasifera, W. (w. M. ♄.) peduncles solitary; leaves oval, glabrous: fruit pendant: branches almost thornless. *Prunus, cerasifera.*

Exotic.

cerasus, (garden cherry. w. r. ♄.) umbel sub-peduncled: leaves lance-ovate, glabrous, conduplicate. *Prunus, cerasus.*

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(1) rubra, A. Cerasus, Mx. (2) virginiana, Miller. (3) serotina, Ph.? (4) lanceolata, W. borealis, Ph. Cerasus borealis, Mx. (5) sphaerocarpon, Mx. (6) sphaerocarpa, Mx.?

padus, (bird cherry. w. M. ♄.) flowers racemed, lax: leaves doubly serrate, subrugose, petioled, with 2 glands. *Prunus, padus.*

avium, (small bird cherry. w. ♄.) umbels sessile: leaves lance-ovate, pubescent beneath, conduplicate. *Prunus, avium.*

Southern.

caroliniana, W. (1) (w. Ap. ♄.) flowers racemed: leaves perennial, lance-oblong, mucronate, serrate and entire, glandless, smooth. Middle size tree. Florida. *Prunus, caroliniana.*

semperflorens, W. (W. M. ♄.) racemes leafy, pendulous: calyx serrate: leaves ovate, serrate, glabrous, glandular at the base. Small shrub. *Prunus, semperflorens.*

hirsuta, E. (Ap. ♄.) racemes straight: leaves oval, serrulate, glandless? under surface, calyx, peduncles and petioles hirsute. 3—4 f. *Prunus, hirsuta.*

?*umbellata*, E. (w. Mar. ♄.) umbels terminal, many-flowered: leaves lanceolate, subacuminate, serrulate, glabrous, with 2 glands at the base: calyx pubescent. *Prunus, umbellata.*

20—2. Ce′ratio′la. 96. Empet. ton—.

Southern.

ericoides, W. (Au. ♄.) branchlets partly tomentose: leaves verticillate, narrow, linear, smooth. An evergreen shrub. 4—6 f.

3—2. Ceratochlo′a. 10. Gram. far. ton.

unioloides, Ph. (Ju. ☉. or ♃.) panicle nodding, spreading: spikelets oblong-lanceolate, compressed, 6 to 8-flowerd; florets acuminate, unarmed: sheaths bearded at the throat, the lower ones hairy: root fibrous. *S.*

19—12. Ceratophyl′lum. 88. Cerat. ton—.

demer′sum, W. (hornwort. W. Ju. ♃.) leaves 8 in a whorl, dichotomous in two pairs, tooth-spined on the back: flowers axillary: fruit 3-spined. Y. P. C. F.

submersum, L. (W. ♃.) leaves dichotomous in three pairs: fruit without spines. In water.

10—1. Cer′cis. 93. Leg. asc. ape.

canadensis, (red-bud, judas tree, r. M. ♄.) leaves round-heart-form, acuminate, villose at the axils of the nerves: stipules minute: legumes short-stiped. Var. *pubescens*, has roundish acute leaves, pubescent beneath. 15—30 f. *S.* Y. P. O. Canada. Sandusky, Ohio. Mch.

3—2. Cere′sia. 10. Gram. far. ton.

Southern.

fluitans, P. (W. Oc. ☉?) stem creeping and ascending, generally floating: leaves scabrous: spikes numerous: glumes white, dotted, somewhat hairy. 1—3 f. K.

Ceropegia, Cynanchum.

5—2. Chaerophyllum. 60. Umbel. sto. nar. if nau.

procumbens, Lam. (M. ☉.) stem procumbent: leaves decompound; divisions lanceolate, rather obtuse: umbels about 3-rayed, fruit smooth, shining. Var. *boscii*, stem sub-hirsute, erectish: leaves tripinnate. Carolina. S. P. O. M. K. Uraspermum procumbens of the 7th edition.

Ceratiola. Gr. *keration*, little horn, alluding to the stigma.

Ceratochloa. Gr. *keras*, horn, and *chloë*, grass, referring to the appearance of the seed.

Ceratophyllum. Gr. *keras*, horn, and *phullon*, leaf from the numerous horned divisions of the leaves.

Cercis. Gr. *kerkis*, shuttle, from the resemblance in the shape of the legume.

Ceresia. In honor of the goddess Ceres.

Chaerophyllum. Gr. *chairon*, (of chairo) rejoicing, *phullon*, a leaf, from the pleasant odor of the leaves.

(1) lusitamea, Wr.

6—3. CHAMAE'ROPS. 11. Palm. edi. ton.

Southern.

serrula'ta, W. (Ju. ♄.) caudex creeping: stipes sharply serrate: fronds plaited palmate. Fronds 2 f.

hystrix, Fraz. (1) (Ju. ♄.) caudex creeping; stipes intermingled with long thorns: fronds plaited, palmate. Fronds 4—5 f.

palmetto, W. (Ju. ♄.) caudex arborescent: stipes unarmed: spathes doubled: fronds plaited, palmate. Fronds 5—6 f. Florida.

16—10. CHAPMANNIA. 93. Legu. nut. ast.

floridana, T. (M. y.) stem erect or somewhat assurgent, sulcate, hirsute and viscid: leafets 2 or 3 pairs, elliptical-oblong, mostly retuse: stipules very small, subulate, membranaceous: racemes few-flowered, somewhat paniculate: flowers bracted: calyx hispid; tube slender: petals nearly equal in length with short claws; wings oblong, scarcely toothed at the base: ovary oblong: style nearly straight, exserted. 2—3 f. Florida.

17—4. CHAPTAL'IA. Vent. 54. Card. sec-stim. if nau. cat.

Southern.

integrifolia, Mx. (2) (p-w. J. ♃.) leaves oblong-lanceolate, and obovate, retrorsely denticulate, tomentose, and silvery beneath: scape naked, 1-flowered: flowers nodding. Pursh says the leaves are ovate-oblong, entire.

19—1. CHA'RA. 6. Naia. nau. cat.

vulga'ris, W. (feather-beds. O. Ju. ☉.) stem and branches naked at the base; branchlets terete; joints leafy: leaves oblong-subulate: bracts shorter than the berry. Odour disagreeable. Ponds and ditches mostly stagnant. *S.*

foliosa, W. (3) (W. Ju. ☉.) stem naked, papillose above; branchlets terete, leafy at the base and in the joints: leaves linear: bracts shorter than the berry. In clear water. *S.* P. N.

flex'ilis, W. (W. Au. ☉.) stem translucent, naked: branchlets jointless, leafless, compressed: berries lateral, naked. Ponds in Stockbridge. *S.* P. N.

humilis, Riddell. (g. Au. ☉.) stem calcareous, solitary and branching: branchlets 8 to 10 in a whorl, (involucre none) about equalling the internodes (¾ of an inch): branchlets toward the summit bearing 1 to 2 thecae. 2—3 i. Resembles *foliosa.* Old River.

subulosa, Riddell. (g. Au. ☉.) stem with a few erect branches, sub-sulcate, papillose; branchlets 8 to 10 in a whorl without an involucre, half an inch long; internodes near an inch long: the calcareous incrustation on the stem unusually thick. Var. *spiralis*, stem spirally sulcate. 18 i. Dayton, O.

glabra, M. (Ju.) whole plant glabrous. *S.* P.

Southern.

capitata, E. (A.) stem and branches terete, glabrous; joints leafy: fruit in heads: bracts a little longer than the berry.

Chamærops. Gr. *chamai*, on the ground, and *rōps*, a shrub, from its habits and size; or altered from Gr. *chamaidrōps*, dwarf-oak.

Chaptalia. In honor of M. Chaptal, a French naturalist and chemist.

Chara. Gr. *chairō*, to rejoice, because it is the delight of the water, or that it delights in water.

(1) Sabal hystrix, N. (2) Tussilago, Mx. W. C. tomentosa, Ph. Perdicium semifloscularre, Wr. (3) squamosa, D.

21—1. Cheilan'thes. 5. Fil. sec-stim.

vesti'ta, W. (lip-fern. ♃.) frond doubly pinnate, hairy both sides: leafets pinnatifid; divisions oblong, obtuse, entire: stipe and racemes rough-haired. Small, on rocks. *S.* P. H.

Southern.

dealbata, Ph. (W. Ju. ♃.) frond triply pinnate: leafets oval, distinctly crenate or emarginate at the apex, whitish beneath.

14—2. Cheiran'thus. 63. Cru. asc. nut.

pallasii, Ph. (W. r. Ju. ♂.) stem simple, terete, somewhat glabrous: leaves glabrous, lanceolate-linear, tapering, repand-toothed.

capitatus, Douglass. (W.) roughish: leaves lance-linear, long-tapering at the base, leaves and stem strigose: flowers dense-corymbed: silique thrice as long as the pedicel. Rocky Mts. and west.

Exotic.

cheiri, (wall-flower. J. ♃.) leaves lanceolate, acute, glabrous: branches angled: stem somewhat of a woody texture.

fenestralis, (waved wall-flower. ♂.) leaves crowded together in a head, recurved, undulate: stem undivided.

an'nuus, (stock july-flower. Ju. ☼.) leaves lanceolate, sub-dentate, obtuse, hoary: silique cylindric, with an acute apex.

in'canus, (brompton stock, brompton queens. ♂.) leaves lanceolate, entire, obtuse, hoary: silique truncate, compressed at the apex: stem somewhat of a woody texture.

12—1. Chelidonium. 62. Papa. nar-ano. acr-sti. diu. sud.

Exotic.

majus, W. (celandine. y. M. ♃.) umbels axillary, peduncled: leaves alternate, pinnate, lobed. Naturalized.

Chelidonium, Meconopsis.

13—2. Chelo'ne. 37. Scrop. acr-poi. asc.

glabra, (1) (snakehead. O. w. & r. Ju. ♃.) leaves opposite, lance-oblong, acuminate, serrate: spikes terminal, dense-flowered. Var. *alba*, leaves sub-sessile: flowers white. Var. *purpurea*, leaves short-petioled: flowers purple. Var. *lanceolata*, leaves lanceolate, acuminate, serrate, sessile, pubescent beneath: segments of the calyx oblong. Some authors make a species *obliqua*, which they say, has all the leaves opposite, and that the glabra has the lower leaves alternate—sed quere?—Damp. Mch.

Southern.

ly'oni, Ph. (p. Au. ♃.) glabrous, branching: leaves petioled, cordate-ovate, serrate: spikes terminal: flowers clustered.

latifolia, M. (r. Au.) glabrous: leaves broad, ovate and oval, serrate, abruptly acuminate, tapering at the base, petioled: flowers crowded, bracts and calyx ciliate. 2 f.

5—2. Chenopo'dium. 29. Chen. edi.·ton. lax.

rhomb'ifo'lium, M. (W. J. ☼.) leaves triangular-rhombic, acute, repandly toothed: racemes axillary, erect, leafless: bracts minute inflexed.

Cheilanthes. From Gr. *cheilos*, lip, and *anthos*, flower, in allusion to the lip-like form of the involucre.

Cheiranthus. From Gr. *cheir*, the hand, and *anthos*, flower, relating to the form of its blossoms.

Chelidonium. Gr. *chelidon*, a swallow, this plant being in flower about the time that this bird appears.

Chelone. Gr. *chelone*, a tortoise, from the shape of the helmet of this genus.

Chenopodium. Gr. *chēn*, *(chēnos)* a goose, and *pous*, *(pōdos)* a foot, from the sinuate leaves of some species.

(1) obliqua, W.

album, L. (green pig-weed. O. g. Ju. ☉.) leaves rhomboid-ovate, erose, entire behind, the upper ones oblong, entire, seed smooth. Var. *viride*, leaves lance-rhomboid, sinuate-toothed: racemes ramose, sub-foliaceous: stem very green. 2—4 f. Mch.

hybridum, L (W. Ju. ☉.) leaves cordate, angular-toothed, acuminate: racemes branching, somewhat cymose, divaricate, leafless. Var. *simplex*, stem simple, 5-angled: leaves ovate, sub-cordate, coarsely repand-toothed: spike simple, terminal, naked. 2—3 f. S. C. F. B. N. Mch.

rubrum, L. (red pig-weed, red goose foot. r-g. Ju. ☉.) leaves rhomboid-triangular, deeply toothed and sinuate: racemes erect, compound, leafy. 2—3 f. C. O. B. T. N. Mch.

ambrosiŏides, L. (sweet pig-weed. W. g. Ju. ☉.) leaves lanceolate, remotely toothed: flowers in interrupted sessile clusters; on slender, axillary, leafy branches. Sweet scented. 1—2 f. S. Mch.

botrys, L. fra. exp. (oak-of-jerusalem. O. g. J. ☉.) leaves oblong, sinuate: racemes naked, many-cleft. 12 i. S. Mch.

anthelminticum, L. (wormseed. W. g. Au. ♃.) leaves oblong-lanceolate, toothed: spikes long, interrupted, leafless. Odour strong. 12—24 i. S. Y. C. P. T. F. ath+. exp.

glaucum, L. (♃.) leaves oblong, repand, glaucous beneath: spikes simple, naked, glomerate, axillary, terminal.

maritimum, L. (sea pig-weed. W. L. g. Au. ♃.) leaves subulate, fleshy, semi-terete: flowers glomerate, axillary. 18—24 i. S. C. P. Y.

murăle, W. (Ju. ☉.) leaves ovate, unequally toothed, acute, shining: racemes branching, cymose, leafless. T. C.

bonus'henricus, L. (english mercury. g. J. ♃.) leaves triangular, sagitate, entire: spikes compound, leafless, axillary and terminal, erect.

Exotic.

scoparium, (summer cypress.) leaves flat, lance-linear, margin ciliate: flowers glomerate, axillary.

Southern.

subspicatum, N. (W.) stem 4-angled: lower leaves hastate-ovate, bidentate, acute; upper ones sub-lanceolate: racemes glomerate, simple, terminal.

10—1. Chi'maphi'la. Ph. (1) 51. Pyro. ton. diu. stom. *scrof. dro.*

maculáta, L. (spotted winter-green. W. w. Ju. ♃.) leaves lanceolate, rounded at the base, remotely serrate, marked with long spots: scape 2 or 3-flowered: filaments woolly.

umbelláta, W. (prince's pine, bitter wintergreen. O. r-w. Ju. ♃.) leaves serrate, uniformly green, wedge-lanceolate, with an acute base: scape corymbed: filaments glabrous. Both species are tonics and diuretics, and resemble in their effects the Arbutus uva-ursi. Bw. Mch.

5—1. Chiococ'ca. 57. Cinch. feb. ton.

Southern.

racemosa, W. (y-w. Ju. ♄.) leaves ovate-oblong, acute, flat: racemes axillary, peduncled, simple. Var. *floridana*, leaves ovate, scarcely acuminate; racemes simple, rather longer than the leaves. Florida.

2—1. Chionan'thus. 37. Scro. acr. poi. asc.

virginicus, W. (fringe tree, snow drop tree. W. w. M. ♄.) panicle terminal, trifid:

Chimaphila. Gr. *cheima*, winter. and *philos*, lover, from its sempervivent character.
Chiococca. Gr. *chīon*, snow, and *kokkos*, berry, from the color of the fruit.
Chionanthus. Gr. *chīon*, snow, and *anthos*, flower, from the whiteness of the corol.

(1) Pyrola, L. The Chimaphila was long united to the Pyrola. Though they possess strong botanical affinities, they differ quite as much in habit, and sensible, as well as medicinal properties, as other genera of the natural order Ericae. Such divisions of the Linnean genera, where the "natural genus gives the characters," ought to be adopted. But divisions founded on any artificial character, however constant and decisive, injure the science.

peduncles 3-flowered: leaves acute. Var. *montanus*, leaves oval-lanceolate, coriaceous, glabrous: panicle dense: drupe oval. Var. *maritimus*, leaves obovate-lanceolate, membranaceous, pubescent: panicle very lax: drupe elliptic. Berries purplish blue. *S.* Y. P. M. H.

Chironia, Sabbatia.

3—2. Chlo'ris. 10. Gram. far. ton.

Southern.

petraea, Sw. (sea-side chloris. L. Ju. ♃.) spikes by fours, digitate, straight, erect: flowers imbricate, glabrous, unawned: exterior glume awned: stem compressed. Grows in soils exposed to the influence of salt water. Charleston, S. C.

secun'dus, Ph. (1) (W. ♃.) glabrous, leaves linear: spike elongated, one-sided: spikelets solitary and deflexed after defloration: glumes linear-lanceolate, very acute.

Chloris, Eleusine.

Chondrilla, Borkhausia.

Chondrocarpus, Hydrocotyle.

17—2. Chrysanthemum. (2) 55. Heli. ton. sec-stim.

leucan'themum, W. (ox-eyed daisy, white weed. O. w. J. ♃.) leaves clasping, lanceolate, serrate, cut-toothed at the base: stem erect, branching. 12—20 i. *S.*

arcticum, W. (W. p-w. ♃.) radical leaves 3-parted, gash-toothed; cauline ones wedge-form, 3-parted, obtuse. 12 i. *S.*

integrifolium, Rich. (w. & y. ♃.) dwarfish, hairy: leaves linear, very entire: stem almost leafless, 1-flowered. A.

Exotic.

parthenium, (feverfew. y. & w.) leaves petioled, compound, flat; leafets ovate, gashed: peduncles branching, corymbed: stem erect.

carinatum, (three-colored daisy. r. w. Au. ☉.) leaves bipinnate, fleshy, glabrous: scales of the involucre carinate.

coronarium, (garden chrysanthemum. p. w. r. Au. ☉.) leaves bipinnatifid, acute, broader outwards: stem branching.

12—1. Chyseis. (3) 62. Pap. nar. ano.

californica, Lind. (y.) stem branching, leafy: torus obconic: calyx ovoid, with a very short abrupt acumination: petals bright yellow, with an orange spot at the base. *S.* Oregon. Eschscholzia.

Southern.

crocea, Lind. (y.) stem branching, leafy: torus funnel-form, with a much dilated limb: calyx obconic, with a long acumination: flowers orange yellow. California. E. crocea.

caespitosa, Lind. ( ) stems short, leafy at the base: segments of the sub-radical leaves linear, somewhat dilated and cuneiform: peduncles elongated, erect: torus tubular, with scarcely any limb: calyx attenuate at the apex into a long acumination. California. E. cespitosa.

tenuifolia, Lind. ( ) stems short, leafy at the base: segments of the sub-radical leaves linear-subulate: peduncles elongated, erect: torus tubular, with a very short limb: calyx rather obtuse, acuminate. California. E. tenuifolia.

hypecoides, Lind. ( ) stems elongated, branched, leafy: segments of the leaves short, linear-cuneiform: torus tubular, with scarcely any limb: calyx with a short acumination. California. E. hypecoides.

Chloris. Gr. *chloros*, green, from its color.

Chrysanthemum. Gr. *chrusos*, golden, and *anthos*, flower, from the yellow disk.

(1) Cynosurus, Ph. (2) Pyrethium. (3) Eschscholzia.

11—1. Chrysoba′lanus. 92. Chry. ton—. nut.

Southern.

oblongifolius, Mx. (w. J. ♄.) leaves oblong-lanceolate, cuneate at the base, entire, glabrous, shining: flowers panicled: fruit oblong. "Mx. observes that it varies with the leaves woolly and hoary on the under surface." Elliot. 1—2 f.

17—1. Chry′soco′ma. 55. Aste. ton. sec-stim.

virgata, N. (goldy locks. L. y.) herbaceous, smooth: leaves narrow, linear: stem branching; branches corymbed, fastigiate, virgate: scales of the involucre glutinous, appressed. 18 i. Y.

Southern.

nudata, Mx. (y. S. ♃.) radical leaves spatulate, lanceolate; cauline ones linear, scattered: corymb compound, fastigiate: involucre oblong. 3—4-flowered. 2 f.

graveolens, N. (1) (W. y. Oc. ♄.) leaves linear, 3-nerved, smooth, impunctate: branches whitish, tomentose: flowers corymbed, fastigiate, crowded: involucre angular, smooth, 5-flowered. 6—8 f.

nauseosa, Ph. (W. y. Oc. ♃.) flower peduncled: inolucre and leaves woolly pubescent: leaves narrow-linear: corymb somewhat lax: involucre lax, 5-flowered; inner scales divaricate, glabrous.

solidaginoides, N. (W. y. ♄.) rays oblong, ligulate, about 2 fertile ones: involucre very small: leaves linear-oblong, obtuse, entire, tapering below. A smooth shrub considerably branched.

Chrysoma, Chrysocoma.

17—4. Chry′sogo′num. 55. Hel. ton. sec-stim.

Southern.

virginianum, W. (y. J. ♃.) low, woolly villose: leaves oval dentate, narrowing into the petiole. 6—12 i.

17—2. Chrysop′sis. (2) 55. Inu. ton. sec-stim.

mariana, W. (W. y. Au. ♃.) villose: leaves sessile, lance-oblong, tapering to the base, obtuse, glandular-toothed, lower ones petioled, serrate: peduncles axillary, corymbed, glandular-hairy. 12—18 i. *S.*

falcata, Ph. (y. S. ♃.) woolly: leaves sessile, linear, very acute, sub-falcate, spreading, nerves hairy both sides: peduncles few, axillary corymbed: involucre and peduncles villose. 5—6 i. *S.*

graminifolia, Mx. (y. S. ♃.) silky, leaves lanceolate-linear, acute, entire, nerved: corymb compound: stem leafy towards the summit. Var. *tenuifolia*, silky or woolly: leaves narrow-linear, shining: stem few-flowered: scales of the involucre glabrous. 2 f. S.

scabra, Ph. (W. y. Oc. ♃. or ♂.) hispid-pilose, very scabrous: radical leaves oval, toothed, petioled; cauline ones cordate, ovate, sessile: flowers in panicles. 2—3 f. S.

argentea, P. (y. ♃.) silky: leaves lanceolate, 3-nerved, erect, entire, acute, zigzag: corymbed sub-compound, erect: scales of the involucre flat, pubescent. 2 f. *S.*

ericoides, T. & J. (W. y.) stem branching below; branchlets elongated sub-simple, 1-flowered: leaves subulate, imbricate, appressed, hispid, and ciliate. 5—6 i.

cæspitosa, N. (y. Ju. ♃.) glabrous, small, with many stems, branching at the base, scape-like, 1-to 4-flowered: leaves rigid, lance-linear, acute, very entire: scales of the involucre oval, acute, scarious at the margin. R.

acaulis, N. (A. y. J. ♃.) caespitose, scabrous, almost stemless: leaves crowded, lance-oblong, about 3-nerved, very acute: scape nearly naked, about 1-flowered: divisions of the involucre lance-oblong. R.

Chrysobalanus. Gr. *chrusos*, golden, and *balanos*, a plum or cherry, from the fruit.

Chrysocoma. Gr. *chrusos*, golden, and *komē*, hair, from its appearance.

Chrysogonum. Gr. *chrusos*, golden, and *gonē*, corner or joint. The bright yellow flowers are usually produced in the bends of the stems.

Chrysopsis. Gr. *chrusos*, golden, and *ops*, appearance, from its general color.

(1) dracunculoides, Ph. (2) Inula, L.

[illegible]

[illegible]

Note. The following species of [illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

* Dr. [illegible]

† Amellus. Ph.

5—2. Cicu'ta. 60. Umb. stom. or nar. if nau. e-r. poi+.

maculata, W. (O. w. Ju. ♃.) serratures of the leaves mucronate: petioles membranaceous, 2-lobed at the apex. Damp. 3—6 f. S. Mch.

bulbifera, W. (W. w. Au. ♃.) leaves ternate and biternate, bulbiferous: leafets linear and linear-lanceolate, remotely toothed. Wet. 2—3 f. T. W. C. O. F. D. R. Mch.

Exotic.

virosa, (water hemlock. ♃.) umbels opposite to the leaves: petioles margined, obtuse; leafets ternate, acutely serrate. Root containing a yellow juice.

12—4. Cimicifu'ga. 61. Ran. acr. cau. poi.

Remark. The three genera, Actaea, Cimicifuga, and Macrotrys, continue to interchange their species, according to the different views of botonists.

cordifolia, Pursh. (w.) leaves biternate: leafets broadly-cordate, 3 to 5-lobed: ovaries 1 to 3 glabrous: petals spatulate, bifid: follicles oblong, sessile. Carolina. *Actaea cordifolia*, synonym.

elata, N. (w.) leaves biternate: leafets cordate, lobed, incisely toothed, pubescent beneath: ovaries 2 to 3-glabrous: petals none: follicles oblong, sessile. Oregon. Macrotrys *foetida* is a synonym.

americana, Mx. (w.) leaves triternate: segments ovate: the terminal 3-parted or 3-cleft, incisely lobed, cuneiform or sub-cordate at the base: ovaries 2 to 5-stipitate, glabrous: petals concave, sessile, nectariferous at the base, 2-lobed: follicles obovate, on slender stipes. North Carolina. *Actaea podocarpa*, is a synonyme. E.

Cimicifuga. Actaea, Macrotrys.

5—1. Cinchonia. 57. Cinch. feb. ton.

Gen. Char. Cal. 5-toothed: corol salver-form, with a 5-parted limb: anthers linear, included: capsule crowned by the calyx: seed girted by a torn wing. Jesuit's bark. See species in the Addenda. Not being *indigenous*, nor *cultivated*, (but a very important genus) it is referred to the addenda, for the species and properties.

17—2. Cinera'ria. 55. Eupa. ton. sec-stim.

heterophylla, Ph. (ashwort. y. M. ♃.) downy: radical leaves long-petioled, obovate-spatulate; also ovate, acutish and pinnatifid; cauline ones 2—3, linear, pinnatifid: flowers corymbed. 8 i. P.

canadensis, W. (W. ♃.) villose: leaves pinnatifid, sub-villose; divisions sinuate: flowers panicled.

Southern.

integrifolia, var. *minor*, (1) W. (mountain flea-wort. W. y. Au. ♃.) woolly-tomentose: stem simple: lower leaves spatulate, sub-dentate; upper ones narrow-lanceolate, very entire, erect: flowers somewhat umbelled.

3—2. Cin'na. (2) 10. Gram. far. ton.

arundinacea, W. (indian reed. W. Au. ♃.) glabrous: panicle large, many-flowered, capillary: leaves broad-linear: one valve somewhat awned below at the apex. 2—5 f. S. V. W. Y. C. M. N. P. D. T. Mch.

Cimicifuga. Lat. *cimex*, a bug, *fugo*, to drive: in allusion to its supposed quality.
Cicuta. Lat. *cicuta*, the hollow stem or internodes of plants, applied to this genus.
Cineraria. Lat. *cineres*, ashes, from the appearance of the leaves.
Cinna. Gr. *kinna*, from *kein*, to burn, to heat, from a supposed quality of the original species.

(1) Senecio tomentosus, Mx. (2) Agrostis, Lk. Ph.

2—1. CIRCAE'A. 88. Circ. emo.

lutetia'na, var. *canadensis*, L. (enchanters night shade. O. Ju. w. ♃.) stem erect: leaves ovate, remotely toothed, opaque, smooth. 1—3 f. *S.* Mch.
alpina, L. (O. r-w. Au. ♃.) stem branched, glabrous, often procumbent: leaves broad-cordate, membranaceous, acutely toothed, shining. 6—8 i. *S.* Mch.

Circium, CNICUS.

20?—15? CISSAM'PELOS. 77. Menis. ton. nar—.

Southern.

pauciflora, N. (W. ♂.) herbaceous; very glabrous: leaves ovate-cordate, acute, 7—9 nerved: peduncles about 2-flowered and axillary; flowers perfect. Found in W. Florida by H. B. Croom, Esq. and Dr. Loomis.

Cissus, AMPELOPSIS.

CISTUS, *Helianthemum.* (frost plant.)

Remark. In former editions, it was stated under Cistus, that this plant sent out broad, thin, curved, ice crystals, an inch in breadth, from near the root, for about twenty days in December. This phenomenon has often been observed in the sand plains two miles north of New Haven, Conn.

12—1. CIT'RUS. 70. Auran. stom. ton. ref.

Exotic.

medeca, W. (lemon tree. w. J. ♄.) leaves ovate, acuminate, with linear wingless petioles. Var. *limon*, (lime tree) bears smaller fruit, which is almost round. 4—10 f.
aurantium, W. (Orange tree. w. ♄.) leaves oval, acuminate, with the petioles winged or margined.
limella, f. yields burgamot.
limonum, yields citric acid.

8—1. CLARK'IA. 88. Onag. emo.

Southern.

pulchella, Ph. (W. r. p. J. ♂.) stem erect, terete, somewhat branching above: leaves alternate, linear entire, glabrous: flowers axillary towards the top of the stem, sub sessile, large. 12—18 i.

5—1. CLAYTO'NIA. 86. Port. emo. ton.

virginica, L. (spring beauty. O. w. r. A. ♃.) leaves linear-lanceolate: petals obovate, retuse: sepals somewhat acute: root tuberous. Var. *latifolia*, T. (2) leaves ovate-lanceolate: sepals obtuse. 6—12 i. *S.* Mch.
asarifolia, Bongard. (.r) cespitose: leaves veiny, the radical ones on long petioles, somewhat reniform: cauline sessile, broadly ovate, obtuse: pedicels solitary or ternate, bracted: petals 2-cleft, red. Sitcha.
parviflora, Doug. (r. w.) radical leaves numerous, linear-spatulate, 3-nerved, with anatomosing veins, on long petioles; the cauline pairs united into one oval perfoliate, veiny leaf: raceme simple or somewhat compound, with a single bract. Oregon.

Circæa. After the enchantress Circe, who is said to have used it in incantations.
Cissampelos. Gr. *kissos*, ivy, *ampelos*, grape vine: partaking of the nature of both.
Cistus. Gr. *kistos*, from *kiste*, a box or capsule. The capsules of the genus are box-like.
Citrus. Gr. *kitria*, the lemon or citron tree.
Clarkia. In honor of Gen. Clark, the companion of Lewis across the Rocky Mts.
Claytonia. In honor of John Clayton, author of Flora Virginica.

(1) Helianthemum, Ju. (2) C. caroliniana, Mx. spathulaefolia, Ph. spatulata, 4th Ed.

spathulata, Doug. ( ) cespitose, minute: radical leaves numerous, narrowly sub-spatulate-linear: cauline ones ovate, acute, sessile: raceme solitary, 1-bracteate: petals entire, scarcely exceeding the calyx. North West Coast.

aquatica, N. (w.) cespitose, decumbent, stoloniferous: leaves opposite, spatulate or oblong-obovate, attenuate below, obtusish: racemes axillary, peduncled, simple, few-flowered: petals obovate, entire, more than twice the length of the calyx. Rocky Mountains.

flagellaris, Bongard. (w.) stems cespitose, flagelliform, here and there producing fascicles of leaves and rootlets: leaves oval, attenuate into a short petiole, veiny: petals more than thrice the length of the calyx, bifid, the lobes obtuse. Sitcha.

parvifolia, Mocino. (r. Au.) stems branching from the base, filiform, ascending: leaves succulent; the radical ones revolute, obovate-spatulate, acute; the cauline linear-spatulate: racemes terminal, few-flowered: pedicels filiform, bracteate: petals oblong, entire, thrice the length of the calyx. Nootka. Oregon.

linearis, Doug. ( ) stems branching: leaves very narrowly linear, obtuse: racemes terminal, one-sided, the lowest pedicel bracteate: petals entire, longer than the calyx. Oregon.

dichotoma, N. ( ) low, almost cespitose, much branched: leaves very narrowly linear, acute, sheathing at the base: racemes terminal and axillary: flowers 1-sided, nodding: pedicels about the length of the flowers, the lowest one bracted: petals emarginate, scarcely longer than the calyx. Oregon.

diffusa, N. (w-r.) stems diffusely dichotomous and procumbent: leaves veiny, broadly ovate or deltoid, abruptly attenuate into a petiole, acute: racemes very numerous, terminal and lateral, sub-corymbose, 5—9-flowered: pedicels slender, at length recurved, the lowest one bracteate: petals emarginate, a little longer than the calyx. Oregon.

Southern.

lanceolata, Ph. (W. w. J. ♃.) leaves lanceolate; cauline ones ovate, sessile: raceme solitary elongated: sepals short, obtuse: petals wedge-form, 2-cleft: root tuberous.

alsinoides, Sims. (W. w. J. ☉.) radical leaves spatulate-ovate; cauline ones ovate, distinct: racemes somewhat in pairs: flowers secund: bracts ovate and linear: petals emarginate: root fibrous.

perfoliata, Donn. (W. w. M. ☉.) radical leaves spatulate-rhomboid: cauline ones roundish, perfoliate: raceme sub-solitary, without bracts: root fibrous: petals emarginate.

caroliniana, Mx. (Ap.) leaves ovate-lanceolate or oval, sub-spatulate at the base, or abruptly decurrent into a petiole; radical ones very few, spatulate: pedicels slender, nodding: sepals and petals very obtuse. Canada to Carolina.

exigua, T. ( ) cespitose: radical leaves numerous, narrowly linear; cauline pair lanceolate or linear, somewhat dilated at the base, sub-connate, usually as long as the solitary few and loosely-flowered raceme: petals obcordate, oblong, more than twice the length of the calyx. California.

gypsophiloides, Fisch. and Meyer. (r.) glaucous: radical leaves very long filiform; cauline pair mostly connate on one side: raceme simple, ebracteate: petals nearly linear, emarginate, thrice the length of the calyx. California.

tenuifolia, T. ( ) stems numerous, filiform: leaves narrowly linear; the radical ones insensibly decurrent into long petioles; cauline pair sessile, slightly connate on one side at the base, much longer than the sessile 1-bracteate sub-umbellate raceme: petals oblong, longer than the calyx. California.

12—12. CLE'MATIS. 61. Ranu. r. acr. poi. g-h. epis. rub.

virginiana, (virgin's bower, traveller's joy. O. w. Ju. ♄.) climbing: leaves ternate: leafets ovate, sub-cordate, gash-toothed and lobate: flowers panicled, dioecious. 15—20 f. *S.* Mch.

viorna, W. (leather flower. W. b. J. ♄.) climbing: leaves compound and decompound; leafets lance-oval, acute at both ends, trifid and entire: flowers solitary, bell-form: petals thick, leathery, acuminate. *S.* P.

ochroleuca, Hort. Kew. (1) (w. & y. J. ♃.) erect, simple, pubescent: leaves simple,

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Clematis. Gr. *klema*, a twig or runner; from its habit.

(1) sericea, Mx.

ovate, entire; young ones and calyx silky: flower terminal, peduncled, solitary, nodding. 12 i. S. P. Y.

douglassii, Hk. (W.) stem erect, simple, 1-flowered, flowers nodding: leaves pilose, twice tripinnatifid; divisions linear, obtusish. R.

wyethii, N. (J. ♃.) woolly-hairy: stem erect, simple, with a single nodding flower: leaves somewhat gash-bipinnate, with the divisions 3-gashed and lance-linear, tapering, rarely gash-acutish: flowers deep brown within. 14—18 i. R.

ligusticifolia, N. (w.) plant somewhat pubescent: flowers in paniculate corymbs, dioecious: leaves pinnate and ternate; leafets oblong, acute, mostly somewhat lanceolate-cuneate, incisely toothed and trifid: petals and stamens equal in length: carpels with long plumose tails. Rocky Mountains.

Exotic.

flammula, (sweet virgins bower. ♄.) lower leaves lanciniate; upper ones simple, entire, lanceolate.

viticella, (purple virgin's bower. p. Ju. ♃.) climbing: leaves compound and decompound: leafets oval, sub-lobate, entire: petals obovate, spreading.

Southern.

holoseri'cea, Ph. (w. ♄.) climbing: leaves divided, ternate: segments oblong-lanceolate, entire, pubescent on both sides: corymbs trichotomous, few-flowered, dioecious: petals linear, longer than the stamens. Whole plant silky.

crispa, W. (p. Ju. ♄.) climbing: leaves pinnate and ternate: leafets diviaricate, ovate-lanceolate, acute, 3-lobed or entire: flowers solitary, bell-form; petals acuminate, revolute; margins undulate: awns of the carpels subulate, naked.

cylindrica, Sims. (p-b. Ju. ♄.) climbing: leaves pinnate, decompound: leafets ovate, acute at each end, glabrous, simple, petioled: peduncles terminal, solitary: corol nodding, cylindrical: petals coriaceous, undulate: awns of the carpels plumose.

reticulata, Wi. (W. p-r. Ju. ♄.) climbing: leaves pinnate in 4 pairs: leafets ovate, obtuse at each end, all entire, petioled, membranaceous, reticulately nerved on both sides: flowers solitary, petals coriaceous: awns of the carpels plumose.

ovata, Ph. (♃.) erect, simple: leaves ovate, gradually acute, short-petioled, glabrous, reticulate-nerved on both sides: lower ones sub-cordate: peduncle terminal, solitary, 1-flowered: plumose awns very long.

lineariloba, Dc. peduncles 1-flowered: petals very acute: leaves divided, pinnate, glabrous; leafets entire or 3-parted.

baldwinii, T. ( ) erect, simple or a little branching, slender, slightly pubescent: leaves varying from oblong to linear-lanceolate, entire, or 3-cleft, or lobed: the lobes linear, often slightly laciniate: peduncle terminal, elongated, 1-flowered: flower cylindrical-campanulate: carpels with very long plumose tails. Florida.

drummondii, T. ( ) flowers in paniculate corymbs, dioecious: leaves pinnate, silky-villose beneath, sparingly hirsute on the upper surface: leafets rhombic ovate, incisely 3-lobed, lobes acute: sepals 4, oblong: carpels villose, with very long capillary plumose tails. Texas.

parviflora, N. ( ) smooth: leaves pinnate and ternate: leafets obovate, obtuse, mostly 3-lobed, the lobes short: flowers axillary, approximated, on short peduncles: carpels smooth, with slender plumose tails. Upper California.

lasiantha, N. ( ) pubescent: leaves ternate, broadly ovate, obtusely cuneiform at the base: leafets incisely toothed, the terminal one 3-lobed or trifid: flowers dioecious, solitary, on 2-leaved aggregated branchlets: sepals cuneate-oblong, spreading, villose on both surfaces. Upper California.

pitcheri, T. ( ) peduncles 1-flowered: leaves pinnate, coriaceous, reticulated; leafets 2 to 4 pairs, ovate, mostly obtuse, undivided or 3-lobed: branch leaves simple, ovate: sepals coriaceous, a little longer than the stamens: carpels with a short pubescent tail. Arkansas.

plukenetii, D. C. ( ) peduncles 1-flowered: leaves ternate, glabrous: leafets elliptic or obovate, entire, obtuse: flowers dioecious, erect. Described by D. C., from specimens of Catesby, in Bank's herbarium: supposed to be from America.

Clematis, ATRAGENE.*

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* Clematis is made to comprehend the Atragene by Decandolle.

6—1. CLEO'ME. 64. Capp. ver. sed. rub.

lutea, Hk. (y.) herbaceous sub-glabrous: leaves with 5 leafets; leafets lanceolate acute: silique lanceolate acuminate, with the style glabrous, of the length of the stipe. R.

integrifolia, T. (J. Au. p. r. ☉.) somewhat glaucous: leaves 3-foliolate; leafets lanceolate, entire, sub-mucronate: sepals united to the middle: petals with very short claws: pods oblong-linear compressed, much longer than the stipe. Oregon.

aurea, T. (J. Au. y. ☉.) glabrous: leaves 3 to 5-foliolate: leafets oblong-lanceolate, acute at each end, entire: petals oblong-elliptical, nearly sessile; stamens equal: pods linear, longer than the stype. Oregon.

Southern.

serrulata, Ph. (W. p-w. Au. ☉.) glabrous: leaves ternate: leafets lanceolate, obsoletely serrulate: raceme elongated, bracts linear: stamens 6. 3—4 f.

6—1. CLEOMELLA. 64. Capp. acr. ver.

mexicana, Dc. (W. y.) stem herbaceous, branching, smooth, unarmed: branches obtusely angular: leaves terete, smooth, petioled; leafets lanceolate, acutish, entire: racemes corymbose, terminal. Mexico, Texas.

10—1. CLE'THRA. 51. Eric. diu. ast.

alnifolia. W. (spiked alder, sweet pepper bush, white bush. w. Au. ♄.) leaves wedge-obovate, acute, coarse-serrate, glabrous, both sides one color: racemes spiked, simple, bracted, hoary-tomentose. 4—8 f. S. Y. C. P. F. B. N.

Southern.

tomentosa, Lk. (w. Au. ♄.) leaves cuneate-obovate, acute, sub-serrate, white tomentose beneath: racemes spiked, simple, bracted, villose tomentose. 2—4 f. N. Orleans.

scabra, P. (w. Ju. ♄.) leaves broad-wedge-obovate, acute, coarse serrate, scabrous on both sides; serratures uncinate; racemes spiked, sub-panicled, bracted, sub tomentose.

paniculata, W. (w. Ju. ♄.) leaves narrow-wedge-lanceolate, glabrous on both sides, acute, serrate; serratures acuminate: panicle terminal, racemose, white-tomentose.

acuminata, Mx. (A. w. Au. ♄.) leaves oval, acuminate, serrate, glabrous on both sides, glaucous beneath: racemes spiked, bracted, white-tomentose.

13—1. CLINOPO'DIUM. 42. Labi. stom. ton.

vulgare, W. (field thyme. O. r. w. Ju. ♃.) flowers in head-form whorls: bracts setaceous, hispid: leaves pilose above, remotely toothed: stem simple. 2 f.

Clintonia, CONVALLARIA

5—1. CLINTO'NIA. 52. Lobe. acr. poi—.

elegans, Doug. (b. ☉) procumbent, glabrous: stem angled: leaves sessile, ovate, 3-nerved: flowers axillary solitary: germ long-acuminate. The middle of the lower lip spotted with white. R.

17—1. CNI'CUS. (1) 54. Card. sec-stim. ton—.

lanceolatus, L. (common thistle. O. p. J. ♂.) leaves decurrent, hispid, pinnatifid:

Cleome. Gr. *kleiō*, to shut up, a name given it by Linneus. The original plant of this name resembled Sinapis. It is badly applied.

Clethra. Gr. *klēthra*, the name for the alder, to which, in its leaves, this bears some resemblance.

Clinopodium. Gr. *klinē*, bed, and *podos*, foot, the whorls resembling the feet of the ancient truckle beds.

Clintonia. In honor of Gov. De Witt Clinton, the patron of Natural Science and public improvements.

Cnicus. Gr. *knizō*, to sting, alluding to the prickles.

(1) Carduus, L. in some of his works. Circium, Mx.

divisions 2-lobed, divaricate, spinose: involucre ovate, with spider-web-like pubescence: scales lanceolate, spinose, spreading. 2—4 f. *S.* Mch.

altis'simus, L. (1) (tall thistle. O. w-p. Au. ♃.) leaves sessile, lance-oblong, scabrous, downy beneath, toothed, ciliate; radical ones pinnatifid: involucre bracted, ovate; scales lance-ovate, spinose, close-pressed. 3—8 f. *S.*

arven'sis, W. (2) (canada thistle. O. p. J. ♃.) leaves sessile, pinnatifid, ciliate, spinose: stem panicled: involucre ovate, mucronate; scales broad-lanceolate, close-pressed; margin woolly. 2—3 f.

horridulus, Mx. (3) (w-y. Ju. ♂.) tall: leaves sessile, pinnatifid, acutely-gashed, very spinose: bracts terminal, 1-flowered, many-leaved; leafets very spinose, spines in pairs: involucre unarmed. 2—3 f. *S.* Y. P. B.

muticus, Mx. (p. Ju. ♂.) leaves all pinnatifid, woolly beneath: divisions sub-lanceolate; acute, a little spinose: branches at the summit many, nakedish, 1-flowered: involucre globose; scales not spinose. 3—4 f. *S.* Y. P. D. N.

discolor, M. (O. p. Ju. ♂.) leaves sessile, pinnatifid, rough-haired, downy beneath; divisions 2-lobed, divaricate, spinose: involucre globose, with spider-web-like pubescence; scales ovate, close-pressed, with spreading spines at the tips. 3—5 f. *S.* Mch.

virginianus, W. (A. p. Ju. ♃.) stem simple: leaves sessile, lanceolate, hoary-tomentose beneath, remotely toothed; teeth spinous: flowers solitary: involucre globose; scales mucronate, appressed, carinate. 3—5 f. *S.*

odoratus, M. (4) (r. Ju. ♂.) woolly: stem 1 to 3-flowered: leaves clasping, lance-oblong, pinnatifid; segments irregularly lobed, ciliate, tipped with spines: colour similar both sides: involucre large, sub-globose, naked: scales close-pressed, lanceolate, acuminate, spinose. 1—2 f. P. Y. O. B. F. T. Mch.

glutinosus, Bw. (p. Au. ♂.) leaves pinnatifid, segments divaricate: involucre ovate; scales unarmed, glutinous. 4—6 f. B. T. Mch.

undulatus, N. (W. r-p.) leaves clasping, pinnatifid-sinuate, undulate; segments bifid, spiny; both sides tomentose: involucre sub-globose; scales lanceolate mucronate. 1—2 f. *S.*

pitcheri, T. (W.) cottony-pubescent: leaves very long-linear, pinnatifid (almost pinnate) sub-decurrent; radical ones sheathing the base of the stem; leafets very remote, linear, terminated with slender spines; terminal leafets broadest, sometimes branching: involucre globose; scales lanceolate, keeled, spinose; spines reflexed. First found by Dr. Zina Pitcher on the great sand banks of Lake Superior. My specimen was collected by Dr. E. James, at Lake Huron, from which I made this description, not having seen Dr. Torrey's. It is 18 inches high. D. Mch.

glaber, N. (p. Ju. ♃.) leaves sessile, pinnatifid, all over smooth: segments spinose, acute, lower ones sub-decurrent: involucre ovate, glabrous: scales spineless, short-mucronate, obtusely carinate: stem much branched. 4—6 f *S.* Y.

remotifolius, H. ( ) stem striate, with spider-web-down, chiefly below: leaves sessile half-clasping, deeply pinnatifid, lax-hairy above, wool hairy beneath: segments remote, lanceolate, with sinuate spinose lobes beneath: panicle few-flowered: scales of the involucre numerous, lax-linear, outer ones terminated with a spine. 3—5 f. R.

foliosus, H. ( ) stem erect, strong, striate, a little woolly: leaves erect, numerous above, longer than the flowers, lance-linear, irregularly tooth-sinuate with spines, unequal, ciliate, scarcely hirsute above, spider-web downy beneath, pale: flowers large, glomerate, in the axils of the upper leaves: scales of the involucre linear close-pressed, egret very abundant. R.

Southern.

repandus, Mx. (p. Ju. ♃.) leaves amplexicaule, narrow, oblong, obtusely sub-sinuate, with numerous small spines, lanuginous: flowers solitary: scales of the involucre lanceolate, erect, spinous. 2 f.

5—2. Cni'dium. (5) 60. Umbel. poi.

canadense, Mx. (w. Ju. ♃.) stem angular, flexuous: leaves bipinnate; leafets many-parted, segments lanceolate. *S.* C.

Cnidium. Gr. *knidion*, the herb orache, which this plant resembles.

(1) virginianus, Wr. repandum, Mx. (2) Carduus, S. Serratula, W. (3) spinosissimus, Wr. Serratula discolor, Lk. (4) pumilus, N. (5) Selinum, L.

atropurpureum, Lk. (p. J. ♃.) radical leaves sub-cordate, simple, serrate; cauline ones ternate; leafets ovate, acute, sub-cordate; middle one petioled: partial involucre dimidiate, 3-leaved. Pursh says all the leaves are ternate. 2—3 f. *S.* C. H. M.

14—1. Cochlea'ria. 63. Cruc. g-r. sti. diu. dia. rub. exp. *epi. dro.*

fenestrata, Br. stem simple: leaves ovate-deltoid; petiole broad. (Arctic region.)
aquatica, Ea. (1) (water horse-radish. w. J. ♃.) leaves all pinnatifid; lower ones doubly and finely pinnatifid. Grows in Pittsfield, Mass., in water and wet grounds. Manifestly indigenous; but perhaps a variety of *armoracia*. Oswego river.
oblongifolia, Dc. ( ) silicles roundish, half as long as the pedicels: cauline leaves oblong entire, or toothed sinuate, sessile, uppermost ones short auricled. A.
anglica, Dc. ( ) silicles globe-oval, reticulate veined, half as long as the pedicels: radical leaves petioled, ovate, entire: cauline ones oblong. A.
siliquosa, Dc. ( ) silicles lance-oblong, pointed with the permanent style half as long as the pedicel: leaves oblong, entire, pubescent, tapering at the base. R.
danica, Dc. ( ) silicle sub-oval, of the length of the pedicel: leaves all petioled, deltoid. A.
spathulata, Schlecht. ( ) stellately pubescent: silicle globe-oval: leaves spatulate, coarsely toothed, acute, veiny. A.
tridactylites, Dc. ( ) silicles globose-ovate: cauline leaves with a single tooth on each side. Labrador.
greenlandica, L. ( ) silicles ovate, as long as the pedicels: radical leaves petioled, reniform, entire; cauline ones few or more. Greedland.

Exotic.

officinalis, (scurvy-grass. w. J. ♃.) radical leaves roundish; cauline ones oblong, sub-sinuate: silicles globose.
armoracia, (horse-radish. w. J. ♃.) radical leaves lanceolate, crenate; cauline ones gashed. Naturalized.

Coelestina, Eupatorium.

19—3. Co'ix. 10. Gram. far. ton.

Exotic.

lachryma, (job's-tear. Ju. ☉.) culm semi-terete above: flowers naked: fruit ovate. 12—18 i.

13—2. Collins'ia. N. 37. Scro. acr. poi. asc.

verna, (collinsia, tall pink. W. b. M. ☉.) leaves opposite and whorled, obtuse, entire: peduncles axillary, whorled, single-flowered. 12 i. *S.* Mch.
minima, N. (w. & b. A. p. ☉.) leaves opposite, wedge-oblong, obtuse, sub-denticulate: calyx about half as long as the divisions of the corol. 1—2 i. R.

2—1. Collinso'nia. 42. Labi. stom. ton.

canadensis, (horse-balm, rich-weed, archangel. O. y. Ju. ♃.) leaves heart-ovate, broad, glabrous: teeth of the calyx short-subulate: panicle terminal, compound. Var. *cordata*, leaves broad-cordate, upper ones entire. Var. *ovata*, leaves ovate, attenuate at the base, all serrate. Strong scented, not unpleasant. 1—3 f. *S.* Mch.

Southern.

scabra, Ph. (r-y. Au. ♃.) leaves small, ovate, sub-cordate, somewhat hairy: teeth of the calyx short, subulate: panicle terminal, simple: stem hairy, rough. 2—3 f.

Cochlearia. Gr. *koch'ias*, snail, from the coiled form of the fruit of some species; or from the spoon shape of the leaves.
Coix. Gr. *koix*, a name applied to one of the palm leaved trees by Theophrastus; which it resembles.
Collinsia. In honor of Z. Collins, Esq., of Philadelphia.
Collinsonia. In honor of John Collinson, a patron of botany in England.

(1) natans? Hk.

ovalis, Ph. (y. Au. ♃.) leaves oblong-oval, acute at each end, glabrous: petioles long: teeth of the calyx short: panicle terminal, simple, naked: stem glabrous.
tuberosa, Mx. (y. S. ♃.) leaves somewhat rhomboid-oval, acute at each end, glabrous: teeth of the calyx setaceous, longer than the tube: panicle compound, leafy: stem branching, somewhat hairy. 3—4 f.
anisata, Sims. (A. y. Au. ♃.) leaves ovate, cordate, rugose, glabrous; nerves pubescent beneath: teeth of the calyx linear, nearly as long as the tube: panicle leafy, compound, pubescent: flowers tetrandrous: stem branching, pubescent.
punctata, E. (y. S. ♃.) leaves ovate-lanceolate, acuminate, acute at the base, pubescent and dotted beneath: panicle compound. 2—6 f.
verticillata, Bald. (M.) leaves verticillate, oval and acuminate. Var. *purpurasceus*, flowers purplish; panicle short. 1 f.

5—1. Collo'mia. (1) 45. Pole. ton—.

Southern.

linearis, Cav. (W. w-p. J. ☉.) sub-pubescent: leaves oblong-linear, sub-lanceolate; floral ones ovate-lanceolate, acute: bracts and calyx viscid. 4—12 i.

Colpodium, Agrostis.

16—10. Colute'a. 93. Legu. cat. asc. ape.

Exotic.

arborescens, (bladder senna. y. ♄.) leaves pinnate; leafets oval, retuse: banner gibbous, abbreviated.
vesicaria, (senna herb. y. Ju.) leaves pinnate; leafets ovate: stem herbaceous, decumbent, villose: legumes orbicular, inflated.

Comandra, Thesium.

Comaropsis, Dalibarda.

11—12. Co'marum. (2) 92. Rosa. ast. ref. feb. ton+.

palustra, W. (marsh five-finger. W. p. Ju. ♃.) leafets in threes, fives and sevens, serrate: stipules growing to the petioles and sheathing: flowers axillary and terminal: stem rooting. An active astringent. 18 i. *S.* T. N. C. Mch.

3—1. Commeli'na. 13. Comm. ton—.

angustifolia, Mx. (day-flower. b. Ju. ♃.) assurgent, weak, somewhat glabrous: leaves lance-linear, very acute, flat, glabrous: sheaths sub-ciliate: bracts (or involucres) peduncled, solitary, short-cordate. 12 i. *S.* P. H. Mch.
virginica, L. (3) (W. b. Ju. ♃.) stiffly erect, all over pubescent: leaves long-lanceolate; sheaths red-bearded at the throat: bracts (or involucres) sub-sessile, lateral and terminal: calyx petal-like, 3-sepalled, nearly equal. 2 f. *S.*

Southern.

communis, L. (W. b. Au. ☉.) corol unequal: leaves ovate-lanceolate, acute: stem creeping, glabrous. K.

19—3. Compto'nia. 99. Myri. aro. ast. stom. sec-sti.

asplenifolia, A. (sweet fern. O. g. Ap. ♄.) leaves long-linear, alternately crenate-pinnatifid. 18—48 i. *S.* In rocky situations. Mild astringent and tonic. Bw, Mch.

Collomia. Gr. *kolla*, gluten, referring to the seed.
Colutea. Gr. *koloutea*, a tree which dies if it is mutillated; from *kolouō*, to cut off.
Comarum. Gr. *komaros*, the ancient name for the strawberry tree, which the fruit of this plant resembles.
Commelina. In honor of the brothers Commelin, two Dutch botanists.
Comptonia. In honor of Bishop Henry Compton, a cultivator of exotics in England.
(1) Taken from Phlox. (2) Potentilla, T. (3) Hirtella, Vahl.

5—2. Co′nium. 60. Umbe. stom. e. nar. l. nau. rub. poi.

maculatum, L. (poison hemlock. O. w. Ju. ♃.) stem very branching, spotted: leaves very compound: carpels striate. Var. *crispatulum*, leaves crisped: ultimate divisions acuminate, or terminated in a bristle. 2—4 f. S. Not probably introduced; for I have seen it in a wild state in numerous Alpine districts in New Hampshire, Vermont, Massachusetts, &c.

6—1. Co′nosty′lis. 18. Haem. ton.

americana, Ph. (1) (weed-grass. y. Ju. ♃.) corol woolly within; scape corymb-panicled: leaves grass-ensiform, glaucous: filaments equal. 12—18 i. S. Y.

13—2. Conradia. 32. Nyct. ton—. cat—. diu. cebs. *dro.*

fuschsioides, N. (♃.) glabrous: leaves petioled, lanceolate, lyre-pinnatifid, lobes denticulate outside: calyx foliaceous, divisions exsert, denticulate. 4 f. Resembles Gerardia quercifolia.

6—1. Convalla′ria. 12. Smil. stim. acr—.

1. *Corol deeply 4-parted, spreading: stamens 4: berry 2-celled. (Flowers in a terminal raceme.)* Majanthemum, D.

bifolia, L. (2) (dwarf solomon seal. O. w. J. ♃.) stem with two heart-oblong, sub-sessile, glabrous leaves: raceme simple, terminal: flowers tetrandrous. Var. *trifolia*, stem 3-leaved. 4—6 i. Mch.

2. *Corol 6-parted, spreading: filaments divergent, attached to the base of the segments. (Flowers in a terminal raceme.)* Smilacina, D.

stellata, L. (W. w. M. ♃.) stem with alternate, clasping, oval-lanceolate leaves: raceme simple, terminal. 8—18 i. N. T. C. Mch.

trifolia, L. (W. w. J. ♃.) stem about 3-leaved: leaves alternate, ovate-lanceolate, contracted at the base: raceme simple, terminal, few-flowered. 6—10 i. D. P. T. N. Mch.

ciliata, D. (w. ♃.) stem arched: leaves alternate, sessile, ovate, ciliate: panicle terminal, crowded. S. Canada.

racemosa, L. (spiked solomon seal. O. y-w. M. ♃.) stem with alternate leaves: leaves sessile, oblong-oval, acuminate, nerved, pubescent: flowers in a terminal raceme-panicle. 18—24 i. S. Mch.

3. *Corol sub-campanulate, deeply 6-parted: style elongated: berry 2-celled, many-seeded.* Dracaena, D. & W.

borealis, W. (wild lily of the valley, dragoness plant. g. y. J. ♃.) sub-caulescent: leaves oval-obovate; margin ciliate: scape pubescent: umbel few flowered, sub-corymbed, sometimes proliferous: pedicels naked, nodding. 6—10 i. T. Mch.

umbellata, Mx. (A. w. Ju. ♃.) leaves radical, oblong-oval, with the margin and keel ciliate: scape pubescent: umbel terminal: pedicels bracteate. Torrey says, keel not ciliate; flowers greenish-yellow. 8—12 i. S.

4. *Corol 6-cleft, cylindric: filaments inserted on the upper part of the tube: berry 3-celled: cells 2-seeded. (Flowers axillary.)* Polygonatum, D.

multiflora, L. (giant solomon seal. W. w. Ju. ♃.) stem terete: leaves alternate, clasping, oblong-ovate: peduncles axillary, some of them many-flowered. 2—3 f. S.

Conium. Gr. *koneion*, from *knos*, a cone or top; so called because it produced giddiness in those who drank it. It is the Greek name for poison hemlock.

Conostylis. Gr. *kōnos*, cone, and *stulos*, a style, from their form.

Conradia. Named in honor of S. W. Conrad, late Prof. Bot. Un. Phil., now N. Y. State geologist, in the department of Palaeontology.

Convallaria. Lat. *conrallis*, a valley, its usual place of growth.

(1) Helonias tomentosa, M. (2) Smilacina canadensis, Ph.

biflora. Wr. (1) (g-y. J. ♃.) stem terete, smooth: leaves alternate, sessile, elliptic-lanceolate, 3-nerved: peduncles axillary, solitary, few-flowered. 12—18 i. *S.* P. T.

pubescens, W. (O. w. M. ♃.) stem teretish, furrowed: leaves alternate, clasping, ovate, pubescent beneath: peduncles axillary, about 2-flowered. 18 i. *S.*

canaliculata, W. (A. clasping solomon seal. w. Ju. ♃.) stem channelled: leaves alternate, clasping, oblong, margin pubescent: peduncles axillary, about 2-flowered. *S.* B.

latifolia, (J. ♃.) stem angled: leaves sessile, ovate, acuminate: peduncles 1 or many-flowered. 4 f. *S.* P. H.

hirta, Lk. (♃.) stem angular, hispid: leaves alternate, somewhat clasping, ovate, abruptly acuminate: peduncles axillary, 3-flowered.

Southern.

maja'lis, W. (lily of the valley. W. A. w. J. ♃.) scape naked, smooth: leaves oval-ovate. Virginia. Cultivated.

5—1. Convolvulus. 44. Conv. r. cat. or lax.

repens, L. (2) (field bind-weed. O. w. & r. J. ♃.) twining: leaves sagittate, with the apex acute and the lobes truncate, entire (some obtuse:) bracts acute, longer than the calyx and shorter than the middle of the corol: peduncle angled, exceeding the petiole. *S.* Mch.

arvensis, L. (3) (bind-weed. W. w. J. ♃.) stem climbing or prostrate: leaves sagittate; lobes acute, spreading; peduncles about 1-flowered: bracts minute, acute. *S.* P. B.

panduratus, Mx. (mechoacan, wild potatoe vine, man of the earth. W. w. & r. Ju. ♃.) twining, pubescent: leaves broad-cordate, entire or lobed, guitar-form: peduncles long: flowers fascicled: calyx glabrous, awnless: corol tubular-bell-form. A mild cathartic, and resembles rhubarb in its effects. Bw. Y. P. O. H. M.

spithameus, L. (4) (dwarf morning glory. W. w. J. ♃.) erect: leaves oval, or oblong, sub-cordate, pubescent: peduncles 1-flowered, generally longer than the leaves. 9—12 i. *S.* D. P. T. B. Mch.

Exotic.

batatus, (sweet potatoe, carolina potatoe, w. Ju. ♃.) creeping, tuberous: leaves cordate, hastate, angular-lobed, 5-nerved, smoothish: peduncles long: flowers fascicled: corol sub-campanulate. Cultivated. nut. lax.

tricolor, (3-colored bind-weed. Ju. ☉.) leaves lance-ovate, glabrous; stem declined: flowers solitary.

Southern.

purpureus, Ph. (5) (common morning glory. W. b. p. J. ☉.) pubescent: leaves cordate, entire: peduncles 2 to 5-flowered: pedicels nodding, thickened: divisions of the calyx lanceolate: capsules glabrous. Cultivated. Grows west of the Miss. Mch.

machrorhizus, Mx. (6) (W. w. J. ♃.) pubescent: leaves cordate, entire and lobed, rugose-plaited, downy beneath: peduncles 1 to 5-flowered: flowers sub-campanulate: root very thick.

tenellus, (6) (W. w. Ju. ♃.) stem prostrate: leaves elliptic, mucronate, sub-cordate: peduncles many-flowered, longer than the leaves: style 2-parted.

aquaticus, Wr. (8) (w. J. ♃.) stem prostrate: leaves oblong-ovate, nearly sessile: peduncles generally 3-flowered, three times as long as the leaves: style 2-parted.

obtusilobus, Mx. (y. & w. S. ♃.) stem prostrate: leaves thick, sinuate, lobed, emarginate; lobes rounded: peduncles 1-flowered.

catesbyanus, Ph. (p.) twining, tomentose: leaves oblong, sagittate, acuminate: peduncles 1-flowered, shorter than the leaves: bracts oval, obtuse, longer than the calyx.

Convolvulus. Lat. *convolvo*, to twist together, from the twinings of the stalk.

(1) angustifolia, Ph. (2) sepium, W. L. (3) sagittifolius, Mx. E. speciosus, Wr. (4) Calystegia tomentosa! Ph. C. stans? Mx. (5) Ipomea, Ph. (6) Ipomea jalapa, Ph. Ipomea, Mx. C. jalapa? L. (7) trichosanthes, Mx. Ph. (7) trichosanthes, Mx. patens, Ph.

paradoxa, Ph. (w.) prostrate, tomentose: leaves oblong, cordate-sagittate, acute: peduncles 1-flowered, longer than the leaves: bracts linear, remote from the flowers: calyx naked, glabrous, acuminate.

sherardi, Ph. (☉.) prostrate, pubescent: leaves elliptic, retuse at each end, mucronate: flowers solitary, nearly sessile.

tamnifolius, (b. S. ☉.) twining: leaves cordate, acuminate, hairy: flowers clustered.

17—2. Cony'za. 55. Inul. ton. sto. sec-stim.

marylandica, Mx. (1) (marsh flea bane, ploughman's wort. p. Au. ☉.) herbaceous, pubescent: leaves sessile, broad-lanceolate, acute, serrate: serratures at the apex cartilaginous: corymbs terminal, fastigiate, condensed, almost leafless: scales of the involucre subulate-mucronate: florets short. 12—20 i. *S.* Y. P. B. F.

bifrons, W. (y. Ju. ♃.) sub-glutinous: leaves clasping, spatulate-oblong, acute, serrate: corymbs of the panicle glomerate.

Southern.

camphora'ta, Ph. (W. p. Au. ♃.) herbaceous, sub-pubescent: leaves petioled, ovate-lanceolate, very acute, somewhat repand denticulate, dentures glandular: corymbs terminal and axillary, shorter than the leaves: scales of the involucre acute, about equal to the florets. Marylandica? 3 f. K.

angustifolia, N. ( ) herbaceous, dusty-pubescent: leaves lance-linear, sub-denticulate, acute, tapering at the base: flowers dense, corymbed. South Carolina.

Conyza, Pterocaulon.

12—12. Cop'tis. 61. Ranu. r. bit-ton+.

trifolia, Sy. (2) (gold thread. O. w. M. ♃.) scape 1-flowered; leaves ternate. Roots long, filiform, golden yellow. Tonic bitter. Bw. 2—4 i. *S.*

aspleniifolia, Sy. (W. ♃.) leaves biternate; leafets sub-pinnatifid: scape 2-flowered.

occidentalis, N. (false-gold-thread. y. ♃.) evergreen: leaves gash 3-lobed, or obsoletely 3-leaved, sub-coriaceous: scape very short, about 3-flowered. Synonym *Chrysocoptis* occidentalis.

18—1. Co'rallorhi'za. (3) 21. Orch. an. amy. emo.

verna, T. (4) (coral root. w-y. M. ♃.) petals linear-lanceolate, spreading: lip oblong, without spots, bi-dentate at the base, apex recurved, ovate; spur obsolete, adnate. 5—6 i. Mch.

odontorhiza, W. (coral-teeth, dragon's claw. W. p. w. Ju. ♃.) lip entire, oval, obtuse; margin undulate or a little crenate; spur obsolete, adnate to the germ: capsule sub-globose. T. Rare. 6—12 i. *S.*

multiflora, T. (4) p. Ju.) scape many-flowered, (15—30): lip cuneate-oval, 3-parted, recurved, spotted: spur conspicuous, adnate. 12—20 i. T. D. Mch.

Corallorhiza, Aplectrum.

12—1. Corchorus. Tili. b. emo. f. & l. asp.

Southern.

siliquosus, L. ( ) branching: leaves ovate or lanceolate, acute, equally serrate: capsules pod-shaped, linear, 2-valved, nearly glabrous. Alabama.

17—3. Coreop'sis. 55. Heli. ton. sec-stim.

1. *Leaves opposite and undivided.*

rosea, N. (tickweed. y. r. M.) small, smooth: stem simple: leaves linear, entire; axils

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Conyza. Gr. *konis*, dust, its powder being used to kill fleas: or from Gr. *konops*, a gnat.

Coptis. Gr. *koptō*, cut off, from the leaves appearing as if cut.

Corallorhiza. Gr. *korallion*, coral, and *riza*, root: its roots resembling coral.

Coreopsis. Gr. *koris*, bug, and *ōpsis*, appearance, the seed resembling that insect.

(1) camphorata, M. (2) Helleborus trifolius, L. (3) Cymbidium, W. (4) innata, Br?

leafy: flowers few, long-peduncled, dichotomous, terminal; rays unequally 3-toothed. 1 f. *S.* P. Y.

2. *Leaves opposite, divided.*

trichosperma, Mx. (y. Ju. ♂.) glabrous; dichotomous: leaves opposite, quinate-pinnate, lanceolate, serrate: outer leafets of the involucre ciliate-serrate; rays entire: akenes wedge-form: about 4-toothed. 2 f. *S.* Y. T. R. D. Mch.

trip'teris, W. (tickseed sunflower. A. y. ♃.) glabrous: leaves petioled, lanceolate, entire; radical ones pinnate; cauline ones ternate: rays entire: akenes obovate, naked at the apex. P. T. D. Mch.

3. *Leaves alternate.*

dichotoma, Mx. (1) (y. S. ☉.) stem glabrous, nakedish and dichotomous above: leaves mostly alternate undivided, entire, narrowing into the petioles; akenes obovate, 2-bristled, scabrous, with a torn margin. 2—3 f. *S.* Y. Mch.

aspera, Ph. ( ) leaves lanceolate-linear, rough; upper ones alternate; lower ones opposite: stem 1-flowered.

palmata, N. (W. y.) stem simple, 1—3-flowered: leaves sessile sub-coriaceous, palmate-3-lobed; margin scabrous: double involucre 8-parted: akenes oblong-elliptic, naked. 12 i. D. Mch.

Southern.

1. *Leaves opposite undivided.*

lan'ceola'ta, L. (y. S. ♃.) leaves sessile, lanceolate-linear, entire, ciliate: peduncles long, naked: akenes orbicular, scabrous, winged, 2-toothed at the summit, emarginate.

crassifolia, A. (O. y. J. ♃.) leaves obovate-oblong, entire, tapering at the base, hirsute: peduncles long, hirsute at the base.

arguta, Ph (y. ♃.) glabrous: leaves petioled, ovate, lanceolate, gradually acuminate, acutely serrate; peduncles axillary and terminal, dichotomous-corymbose.

latifolia, W. (A. y. Au. ♃.) leaves ovate, acuminate, crenate-toothed: teeth mucronate: petioles short: rays entire: akenes cuneate, oblong, without wings, naked at the summit.

oemleri, E. (y. Au.) leaves broad-lanceolate, sessile, acute at each end, entire: peduncles axillary and terminal, dichotomous-corymbose. 2—3 f.

linifolia, N. (W. y. ♃.) very glabrous: leaves opposite entire: radical ones oval-oblong; cauline ones linear, short, obtuse: stem furrowed, 4-sided: akenes with 2 bristles.

oblongifolia, N. (♃.) a little hirsute: stem trichotomous, few-flowered: leaves opposite, entire, wedge-oblong, obtuse: peduncles very long: rays sub-toothed and entire: akenes wedge-oblong naked.

2. *Leaves opposite, divided.*

aristata, W. (O y. Au. ♃.) pubescent: leaves quinate, pinnate; leafets serrate: rays entire, broad, oval: akenes cuneate-obovate, 2-awned: awns long, divaricate.

pubescens, E. (y. Au. ♃.) pubescent: leaves quinate, pinnate: leafets lanceolate, obtuse, entire; lateral ones small: leaves of the exterior involucre ovate-lanceolate: rays undulate? egret 2-leaved, subulate, pubescent. 2 f.

auriculata, (W. A. y. S. ♃.) pubescent: leaves sub-sessile, oval-lanceolate, entire; lower ones ternate: exterior involucre deeply divided: rays 4-toothed: akenes obovate, roundish, 2-toothed at the summit. Var. *diversifolia*, E. hairy: radical leaves ternate, leafets round; cauline ones ternate, leafets obovate; upper leaves spatulate-lanceolate: akenes roundish, denticulate, 2-toothed at the summit. 3—4 f.

senifolia, W. (A. y. Au. ♃.) pubescent: leaves sessile, ternate; leafets lanceolate, entire: rays entire: akenes cuneate. Var. *rigida*, N. leafets linear-lanceolate; margin scabrous: exterior involucre about 12-leaved. 2—3 f.

aurea, W. (y. ♃.) leaves serrate; radical ones 3-parted; cauline ones 3-cleft or entire, lanceolate-linear.

trifida, Lk. (y. ♃.) glabrous: leaves 3-cleft, subulate, fascicled: peduncles terminal, 1-flowered: rays 3-cleft: stem somewhat flexuous.

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(1) gladiata, Wr.

tenuifolia, W. (A. y. S. ♃.) glabrous: leaves opposite, sessile, ternate; leafets compoundly many-parted: segments linear, entire: disk one colored. 2—3 f.

verticillata, W. (A. y. Au. ♃.) smooth: leaves opposite, sessile, ternate or quinate; leafets linear-lanceolate, entire: rays acute: akenes obovate, somewhat 2-toothed. 2—3 f.

mitis, W. (y. Au. ♂.) glabrous: leaves bipinnatifid; leafets linear, serrulate: leaves of the external involucre linear, serrulate: akenes oblong, 2-awned. 3—4 f.

involucrata, N. (W.) leaves opposite, cut-pinnate: leafets in fives, lance-linear, acuminate, gash-serrate: outer leafets hispid, longer than the involucre: akenes subglabrous and scarcely 2-toothed. Collected by Dr. Pitcher, in Arkansas.

ambigua, N. (W.) leaves opposite, gash-pinnate; leafets 3—5, sub-lanceolate, acuminate, gash-lobed, or somewhat entire: outer leafets glabrous, about equalling the involucre: akenes somewhat glabrous, short-toothed. Alabama.

terayi, N. ( ) very glabrous: leaves cut-pinnate, sessile; upper ones 3-cleft; uppermost ones simple; divisions lance-linear, entire, acute: rays elongated: disk of one color.

stellata, N. ( ) glabrous: leaves sessile, cut-ternate, entire; leafets broad lanceolate, thin, tapering to both ends: rays entire: akenes wedge-oblong.

3. *Leaves alternate.*

acuta, Ph. (y. ♂.) leaves ovate-lanceolate, acute, toothed, somewhat hairy: flowers corymb-panicled.

procera, W. (y. ♃.) leaves elliptic, acuminate, serrate, petioled, veined, decurrent; lower ones verticillate; upper ones alternate.

angustifolia, W. (y.) leaves linear-lanceolate, entire, smooth: rays oblong, 3-cleft; middle segment largest.

nudata, N. (r.) stem sub-simple: summit dichotomous: leaves subulate, linear, remote, glabrous: rays somewhat 3-toothed: akenes naked. 2—3 f.

tinctoria, N. (W. y. & p.) radical leaves sub-bipinnate: leafets sub-oval, entire, glabrous; cauline ones sub-pinnate: leafets linear: rays 2 colored: akenes naked. 1—4 f.

5—2. Corian'drum. 60. Umbe. stom. aro.

Exotic.

sativum, S. (coriander. w. J. ☉.) fruit globose: calyx and style permanent.

1—2. Coriosper'mum. 29. Chen. ton—.

hyssopifolium, W. (O. Au. ♄.) spikes terminal: leaves linear, without nerves, unarmed. Var. *americanum*, N. spikes terminal and axillary: leaves nerved, subulate-mucronate. *S.*

4—1. Cor'nus. 58. Capb. r. ast. feb. ton. asc. r. dye.

canadensis, L. (dogwood, low cornel. O. w. M. ♃.) herbaceous: leaves at the top whorled, veiny: involucres ovate, acuminate: fruit globose. 4—8 i. *S.* Mch.

suecica, (♃.) stem herbaceous, somewhat branching: leaves all opposite, sessile, ovate, nerved almost from the base: umbel peduncled: involucral leaves exceeding the flowers: drupes globose. Canada.

florida, L. (false box, dogwood tree. w-y. M. ♄.) leaves ovate, acuminate: involucral leaves 4, rarely 5 or 6, very large, somewhat obcordate: fruit ovate. 15—30 f. *S.* T. B. D. F. N. Mch.

sericea, W. (1) (red osier, red-rod. O. w. J. ♄.) branches spreading; branchlets woolly: leaves ovate, acuminate, rounded at the base, rusty-pubescent beneath: cymes depressed, woolly. Var. *nerrata*, leaves tapering to the base, unequal, veins beneath very prominent. Berries bright blue. 8—12 f. *S.*

sanguinea, L. (2) (common dog-wood. W. w. M. ♄.) branches straight: leaves ovate, pubescent, both sides colored alike: cymes spreading. Berries dark-brown: anthers yellow. 8—12 f. *S.* T. Canada.

Coriandrum. Gr. *koris*, bug; from the odor of the plant reminding one of those insects.

Coriospermum. Gr. *koris*, bug, and *sperma*, seeds, from a fancied resemblance.

Cornus. Lat. *cornu*, horn, from the wood being hard like horn.

(1) lanuginosa, Mx. alba, Wr. rubiginosa, Eh. (2) Dielitra, Hk.

circin'ata, Hr. (1) (O. w. J. ♄.) branches warty: leaves broad-oval, acuminate, white-downy beneath: cyme depressed. 6—8 f. *S.* Mch.
alba, W. (2) (white dog-wood. O. J. ♄.) branches recurved; branchlets glabrous: leaves ovate, acute, pubescent, hoary beneath: cymes depressed. Berries bluish-white. 10 f. *S.* Mch.
paniculata, Hr. (3) (bush dog-wood. O. w. J. ♄.) branches erect: leaves ovate, acuminate, oblong, tapering to the base, pubescence close-pressed, hoary beneath: flowers in a thyrsed cyme. Berries white, globular-flattened. 8—12 f. *S.* Mch.
stricta, H. (4) (O. w. Ju. ♄.) branches straight: fastigiate: leaves ovate, color green both sides, glabrous when mature, a little downy beneath when young: panicled cyme convex. 8—12 f. *S.*
alternifolia, (W. w. M. ♄.) branches warty: leaves alternate, ovate, acute, hoary beneath: cymes depressed, spreading. Berries purple. 18 f. *S.* T.

Exotic.

mas'cula, (cornelian cherry. M. ♄.) umbels equalling the involucre.

Southern.

asperifolia, Mx. (W. w. J. ♄.) branches erect, pubescent: leaves oval-lanceolate, acuminate, scabrous above, tomentose beneath. 4—10 f.

16—10. Coronilla. 93. Legu. asc. nut. ape.

varia, W. (r-p. Ju. ♃.) herbaceous, diffuse, glabrous: stipules small, acute: leafets 9 to 13, oblong, mucronate, lower ones of the stem near each other: umbels 16 to 20-flowered: legumes erect. 4 f.

Exotic.

omerus, (coronilla. y. ♄.) stem angled, woody: peduncles about 3-flowered: claws of the petals about thrice as long as the calyx.
glauca, W. (y. M. ♄.) leafets 7, very blunt: stipules lanceolate: umbels 10 or 12-flowered: peduncles longer than the leaves. Remarkably fragrant during the night and almost scentless during the day. 3 f.

14—1. Corono'pus. 63. Cruc. asc. nut.

Southern.

ruellii, S. (w. Ju. ☉.) silicle entire; margin muricate: style prominent: corymb few-flowered.
didyma, S. (swine's cress. W. Ju. ☉.) silicles emarginate, in pairs, reticulate, rugose: style obsolete: corymb many-flowered. 1—2 f. Charleston, S. C.

16—5. Cory'dalis. (5) 93. Fuma. diu. ape. dia.

glauca, P. (6) (O. y. r-g. J. ♂.) corol 1-spurred: stem branching, erect: leaves glaucous; cauline ones biternate; raceme sub corymbed: bracts minute: silique linear, thrice as long as the peduncle. 1—4 f. *S.* Mch.
au'rea, W. (W. y. M. ☉.) stem branching, diffuse: leaves doubly-pinnate: leafets divided, lance-linear, acute at both ends: racemes one way: bracts lanceolate: silique linear, thrice as long as the peduncle. 8—12 i. *S.* P. Y. K. D. Mch.
scouleri, Hk. (W.) leaf sub-solitary, thrice quadripinnate, longer than the sub-simple raceme; leafets obliquely oval or oblong, decurrent: bracts oblong, longer than the pedicel. R.
macrophylla, N. (r. ♃.) raceme simple, shorter than the biternately pinnate leaves: leaves linear-oblong, straight: bracts linear, longer than the pedicels. Oregon.

Coronilla. Lat. *coronillo*, a little crown or wreath, from the appearance of the corymb of flowers.

Coronopus. Gr. *korōnē*, a crow, and *pous*, foot; the leaves are deeply cut and resemble a bird's foot.

Corydalis. Gr. *korudallis*, was an ancient name for the Fumitory, from which genus this has been separated.

(1) tomentuosa, Mx. ruglosa, Lk. (2) stolonifera, Mx. (3) racemosa, Lk. (4) fatigiata, Mx. sanguinea, Wi. (5) Fumaria, L. (6) sempervirens, L.

pauciflora, P. (♃.) cauline leaves 2 or 3, below the middle of the stem, ternately or biternately divided; segments obovate: bracts ovate, acute: raceme crowded, few-flowered. R. A.

Corydalis, Adlumia, Dilytra.

19—12. Cory'lus. 99. Cupu. f. ole. ton. ton.

americana, Wr. (hazle-nut. O. Ap. ♄.) leaves roundish, cordate, acuminate: involucre roundish-campanulate, larger than the sub-globose nut: border dilated, coarsely serrate. 3—5 f. *S.* Mch.

rostrata, W. (beaked hazel. O. Ap. ♄.) leaves oblong-ovate, acuminate: stipules lance-linear: involucre of the fruit bell-tubular, 2-parted; divisions gash-toothed, elongated beyond the nut into a beak. 2—3 f. *S.*

Exotic.

avellana, (filbert. Ap. ♄.) stipules oblong, obtuse: involucre of the fruit campanulate, spreading at the apex, torn-toothed: leaves round-cordate, acuminate. Var. *maxima*, has a gash-toothed involucre: nut depressed-ovate.

14—2. Cram'be. 63. Cruc. asc. edi. diu.

Exotic.

maritima, (w. ♃.) stem and leaves smooth: leaves sinuate, undulated, glaucous: root perennial, fleshy: flowers large, corymbed, panicled: silique 2-jointed. Cultivated for its early shoots, which are used as a substitute for asparagus.

18—1. Crani'chis. 21. Orch. nut. emo.

Southern.

multiflora, E. ( ) root fascicled, villous: leaves oval-lanceolate, sub-sessile: scape many flowered, pubescent towards the summit: inner petals connivent; lip vaulted, acuminate.

Crantzia, Hydrocotyle.

11—5. Cratae'gus. 92. Poma. ref. ape. ton.

coccinea, L. (thorn-bush. O. w. M. ♄.) thorny: leaves long-petioled, ovate, acutely-lobed, serrate, glabrous: petioles and pubescent calyx glandular: flowers pentagynous. Var. *viridis*, has lance-ovate leaves, sub-trilobate: stem unarmed. Var. *flexuosa?* Sz. having flexuous, spreading branches. A specimen from Rainy Lake was examined by Schweinitz, after it was past flowering. Mch.

pyrifolia, A. (pear-leaf thorn. O. w. J. ♄.) thorny or unarmed: leaves oval-ovate, gash-serrate, somewhat plaited and rather rough-haired: calyx a little villose; leafets lance-linear, serrate: styles 3. *S.*

cordata, E. (1) (w. J. ♄.) thorny: leaves heart-ovate, pinnatifid-lobed, angled, glabrous: petioles and calyx without glands: styles 5. *S.* P.

elliptica, W. (2) (M. ♄.) thorny: leaves oval, unequally serrate, glabrous: petioles and calyx glandular: divisions of the calyx obtuse: berry globose, 5-celled. *S.* P. Y.

glandulosa, W. (W. w. M. ♄.) thorny: leaves wedge-obovate, angled, glabrous, shining: petioles, stipules, and calyx glandular: berries oval, 5-celled. *S.* P.

parvifolia, W. (3) (low thorn. w. M. ♄.) thorny: leaves obovate, deeply serrate, entire at the base, tomentose: calyx gashed. flowers solitary: styles 5. 3—6 f. *S.* Y. Charleston, S. C.

punctata, W. (4) (common thorn tree. w. M. ♄.) thorny or unarmed: leaves wedge-obovate, sub-plicate, glabrous, serrate: calyx villose: divisions subulate, entire. Var. *rubra*, has red berries. Var. *aurea*, yellow berries, with dark specks. *S.* D. F. T. Mch.

Adlumia, (a syn. of Coryd.) Gr. *a*, without, *lumen*, dirt, a supposed cleanser.

Corylus. Gr. *korus*, a helmet or cap, alluding to the enwrapping calyx.

Crambe. Gr. *krambe*, cabbage.

Cranichis. Gr. *krancion*, a helmet, referring to the vaulted lip.

Cratægus. Gr. *kratos*, strength, from the firmness of the wood.

(1) populifolia, Ph. (2) prunifolia, Lk. (3) tomentosa, Mx. (4) crus-galli, Du. Roi.

crus-galli, W. (1) (thorn tree, cock-spur thorn. O. w. M. ♄.) thorny: leaves wedge-obovate, sub-sessile, shining, leathery, serrate: corymbs compound: leafets of the calyx lanceolate, sub-serrate: styles 2. Var. *splendens*, leaves very shining. Var. *pyracanthifolia*, leaves lance-oblong, sub-cuneiform. Var. *salicifolia*, leaves lance-cuneiform. Var. *linearis*, leaves lance-linear: spines few, shortish: fruit yellow: styles 1 or 2. Var. *nana*, leaves lance-oval, paler beneath: branchlets often downy. Berries small, red. *S.* Is not this a Mespilus? Dc.

[illegible]folia, (2) (♄.) leaves broad, ovate, unequally serrate, glabrous: petioles [illegible]-glandular: lobes of the calyx glandular, serrate: peduncles and calyx sub-villose. Fruit 2-celled.

[illegible]lia, (♄.) leaves obovate, unequally serrate, sub-plicate, nerves sub-villose beneath: stipules and lobes of the calyx linear, sub-dentate: corymbs villose. Fruit oval, red.

[illegible] W. (yellow-berried thorn. M. ♄.) thorny: leaves wedge-obovate, angled, glabrous, shining: petioles, calyx and stipules glandular: flowers sub-solitary: berries turbinate, 4-celled. 8—10 f. S. V.

Exotic.

oxyacantha, (quickset, hawthorn. w. M. ♄.) leaves obtuse, somewhat 3-cleft, serrate, glabrous: peduncles and calyx somewhat glabrous: segments of the calyx lanceolate, acute: styles 2. Naturalized.

Southern.

lucida, E. (A. ♄.) thorny: leaves wedge-obovate, crenate, coriaceous, lucid: corymbs simple, few-flowered: styles 5. 10—12 f.

turbinata, Ph. ( ) unarmed, glabrous: leaves wedge-obovate, notched, serrate: corymbs few-flowered: pedicels short: fruit turbinate.

arborescens, E. (w. March. ♄.) unarmed: leaves lanceolate, acute at each end, deeply serrate, glabrous above; nerves hairy beneath: corymbs many-flowered: calyx hairy; divisions subulate, entire: styles 5. 20—30 f.

viridis, L? (♄.) thorny: leaves sub-sessile, spatulate-ovate, with round lobes, serrate, glabrous: calyx glabrous; divisions with glandular serratures.

spathula'ta, Mx. (W. w. Ap. ♄.) somewhat thorny: leaves clustered, (base long, tapering,) 3-cleft, lobed, crenate, glabrous: corymbs many-flowered: calyx glabrous; divisions ovate, entire. 12—15 f.

apiifolia, Mx. (3) (W. w. Ap. ♄.) thorny: leaves deltoid-ovate, notched and lobed, hairy; lobes deeply serrate: calyx hairy; divisions serrate: styles 2. 4—12 f.

populifolia, Wr. (W. w. Ap. ♄.) thorny: leaves ovate, sub-truncate at the base, acute-serrate, somewhat lobed; petioles sparingly glandular: styles 5.

caroliniana, E. (♄.) leaves cordate, cuneate, entire, (dentate?) 3 to 5-lobed: peduncles bracted: calyx somewhat leafy.

17—2. Crin'itaria. 55. Aste. sec. ton. stim.

viscidiflora, H. (♄.) very glabrous: leaves lance-linear, rigid, very entire and acute, 1-nerved and narrow at the base: flowers level-corymbed: peduncles foliolose: involucre cylindric, with glutinous leafets and 5 florets; leafets imbricate, oblong, outer ones smallest. 2—4 f.

6—1. Cri'num. 17. Amar. stim—. poi—.

Southern.

americanum, A. (W.) leaves oblong-lanceolate, very glabrous at the margin; apex compressed-unguiculate: flowers pedicelled: tube shorter than the limb.

Cristaria, Malva.

6—1. Cristatel'la. 64. Capp. ver. asc.

Southern.

crosa, N. (J. Ju. w.) stamens 12 to 14: petals white; lamina of the lower ones laciniately parted: sepals acute. Arkansas.

Crinitaria. Lat. *crinitus*, hairy; the egret being profusely pilose.
Crinum. Gr. *krinon*, a name applied to the lily and other showy plants.
Cristatella. Lat. a little crest.

(1) lucida, Wm. hyemalia, Wr. (2) Mepilus, Poir. (3) oxycantha, Wr.

jamesii, T. (y.) stamens 6 to 9: petals pale yellow; lamina of the lower ones palmately fimbriate-cleft: sepals obtuse. Arkansas, Texas.

Cristatella, Cleome.

Critonia, Kuhnia.

3—1. Cro'cus. 18. Irid. stim. exp. ton. *ast. cat.*

Exotic.

officinalis, (saffron. y. ♃.) leaves linear, with revolute margins: stigma exsert, with long-linear segments. Var. *sativus*, has violet corols.

16—10. Crotala'ria. 93. Leg. nut. asc. ape.

sagittalis, Mx. (rattle-box. y. Ju. ☉.) hirsute, erect, branching: leaves simple, lance-oblong: stipules lanceolate, acuminate, decurrent: racemes opposite to the leaves, about 3-flowered: corol less than the calyx. *S.* C. N. F. B. Y. P.

parviflora, W. (1) (y. J. ☉.) hirsute, erect, branching: leaves simple, lance-linear: stipules above decurrent, with two short teeth: racemes opposite to the leaves: corol smaller than the calyx. *S.* P. Y.

flexuosa, (♄.) leaves obovate, sharply toothed, hairy both sides: corymbs small, downy: branches flexuose. Fruit yellowish: spines long, becoming blackish. Carolina.

Southern.

ovalis, Ph. (y. Ju. ☉.) hirsute, diffuse, branching: leaves simple, oval, petioled: upper stipules scarcely decurrent, short: racemes opposite to the leaves, long: corol as long as the calyx. 12 i.

laevigata, Ph. (2) (Ju. ☉.) glabrous, erect, simple: leaves lance-oblong: stipules lanceolate, acuminate, decurrent: racemes opposite to the leaves, 3-flowered.

Crotalaria, Baptisia.

19—15. Cro'ton. 96. Euph. ton. irr. stom.

Southern.

maritimum, Wr. (3) (Ju. ♄. ♃.) leaves oval or acute, sub-cordate, obtuse; pale above, hoary beneath: branches tomentose: pistillate spikes few-flowered. Var. *monanthogynum*, spikes dichotomous: pistillate flowers solitary, pedicelled. 2—3 f.

argyranthemum, Mx. (Ju. ♃. & ♄.) leaves entire, obtuse, obovate: racemes terminal, short, many-flowered: calyx pedicelled, silvery.

glandulosum, L. (Ju. ☉.) leaves oblong, serrate, hairy beneath; base nearly entire, bearing two glands: stem trichotomous: spikes in the division of the stem.

ellipticum, N. (W. ☉.) stellate pubescent: leaves elliptic-ovate, (older ones obtuse) smooth and green above: flowers conglomerated: styles 3, bifid.

capitatum, Mx. (W. ☉.) woolly-tomentose: leaves oval-oblong, obtuse, entire and rounded at the base; both sides tomentose: fertile flowers at the base of the spikelets: staminate ones capitate, crowded.

19—5. Crotonop'sis. 96. Euph. ton. ver. stom.

linearis, Mx. (4) (W. J. ♃.) stem erect, dichotomous-branching: leaves stellate-pubescent above, covered with silvery scales beneath. 12—18 i. *S.*

Crocus. Gr. *krokos*, saffron, which some say is from the Hebrew; others from Crocus, who was metamorphosed into this plant, according to Mythology.

Crotalaria. Gr. *krotalon*, a rattle. The pods of this genus are inflated, and rattle when shaken.

Croton. Gr. *krotōn*, a tick, from the form of the seed.

Crotonopsis. So called from its resembling the Croton.

(1) A variety of sagittalis, Mx. (2) Purshii, Dc. (3) disjunctiflorum, Mx. (4) argentea, Ph.

3—2. Cryp′sis. Lk. 10. Gram. far. ton.

virginica, W. (1) (S. ♃.) spikes oblong, thick-lobed: stem procumbent, geniculate; joints numerous, approximate: leaves involute, rigid, pungent. *S.* Y. P.

Southern.

squarrosa, N. (W. ☼.) stem decumbent, branching: capituli squarrose, few-flowered: leaves short, rigid, pungent.

2—2. Cryp′ta. 86. Elat. ton—.

minima, (2) (mud purslane. w-g. S.) stem dichotomous, decumbent, striate: leaves wedge-oval or obovate, opposite, sessile, entire, papillose above, with very minute stipules: flowers axillary, sessile, solitary. P. T. Very abundant on the shores of the Hudson, between high and low water mark, about a mile below Albany.

5—2. Cryptotae′nia. 45. 60. Umbe. stom. nar. if nau.

canadensis, (3) (O. w. J. ♃.) the lower umbels originate from the axils of the upper leaves: fruit oblong, stem glabrous: leaves ternate, smooth; leafets rhomb-ovate, acute, gash-toothed. 1—2 f. Mch.

Cucubalus, Silene.

19—15. Cu′cumis. 97. Cucur. edi-f. ref. s. diu. f. & h. cat.

Exotic.

colocynthis, (bitter apple. ☼.) leaves many-cleft: fruit globose, glabrous. Fruit very bitter. poi. cath.

anguira, W. (prickly cucumber.) leaves palmate-sinuate: fruit globose, echinate.

anguinis, (snake cucumber. ☼.) leaves lobed: fruit cylindric, very long, smooth, contorted, plaited.

melo, W. (muskmelon. y. Jn. ☼.) angles of the leaves rounded: fruit oblong, torulose. Sweet-scented. lax.

sativus, W. (cucumber, y. Ju. ☼.) angles of the leaves straight: fruit oblong, scabrous. Brought from Asia. lax.

19—15. Cucur′bita. 97. Cucur. edi-f. ref. s. ole & diu.

Exotic.

ovifera, W. (egg-squash. ☼.) leaves cordate, angled-5-lobed, denticulate, pubescent: pepo with fillet-like stripes lengthwise.

verrucosa, (W. club squash. y. J. ☼.) leaves cordate, deeply 5-lobed; middle lobe narrowed at the base, denticulate: pepo clavate, a little warty.

melo′pepo, W. (flat squash. y. J. ☼.) leaves cordate, obtuse, sub-5-lobed, denticulate: pepo depress-based, swelled at the margin.

pepo, W. (pumpkin. y. Ju. ☼.) leaves cordate, obtuse, sub-5-lobed, denticulate: pepo roundish or oblong, smooth. Var. *poturon*, has the fruit more or less flattened. From Asia.

citrullus, W. (watermelon. y. Au. ☼.) leaves 5-lobed: the lobes sinuate-pinnatifid, obtuse: pepo oval, smooth. Fruit watery, often striped. From Africa and the south of Asia.

lagenaria, W. (gourd, calabash w. Au. ☼.) leaves cordate, round-obtuse, pubescent, denticulate, with 2 glands at the base on the under side: pepo clavate, somewhat woody.

Crypsis. Gr. *krupsis*, concealment, from the flowers being hidden in the sheath of the leaf.

Crypta. Gr. *kruptō*, to conceal, the stamens being concealed in the capsular calyx.

Cryptotaenia. Gr. *kruptos*, concealed, *tainia*, fillet, in allusion to concealed edgings to the fruit.

Cucumis. Lat. *cucumis*, said to be derived from the Celtic *cuce*, a hollow vessel.

Cucurbita. Lat. *cucurbita*, a vessel, derived likewise from Celtic *cuce*, a hollow vessel; a cucurbit.

(1) Agrostis virginica, W. (2) Peplis americana, Ph. (3) Sison canadensis L. Sison trifoliatum, Mx. Uraspermum. N.

Southern?

foetidissima, Kunth? (1) (W. Ju. ♃.) stems procumbent, sulcate: leaves alternate, long-petioled, somewhat erect, triangular-cordate, scabrous, glaucous, thick; margin sinuate, undulate: fruit globose, smooth, sub-sessile: tendrils trichotomous.

13—1. Cu'nila. 42. Labi. stom. ton.

mariana, L. (dittany. W. r-b. J. ♃.) leaves ovate, serrate, sessile: corymbs axillary and terminal, dichotomous. Diaphoretic, Bw. *S.* V. P. H. F. M. Highlands.

Cunila, Hedeoma.

11—1. Cu'phea. 91. Sali. ast. vul.

viscosissima, (wax-bush. W. p. J. ♄.) viscous: leaves opposite, petioled, ovate-oblong: flowers with 12 stamens, lateral, solitary: peduncles very short. *S.* Washington co. Stevenson. V. P. H. M. K.

19—15. Cupres'sus. 100. Coni. e. hea. ton. exp.

thyoides, W. (white cedar. O. M. ♄.) branchlets compressed: leaves imbricate four ways, ovate, tubercled at the base: strobile globular. *S.*
disticha, W. (W. Feb.) leaves distichous, flat, deciduous: sterile florets paniculate, leafless: strobile spherical. *S.*

5—2. Cus'cuta. 44. Conv. h. cat.

americana, W. (dodder, love-vine. O. w. Au. ☉.) flowers peduncled, umbelled, 5-cleft: stigma capitate. A bright yellow leafless vine, twining around other weeds, in damp places. Mch.
europea, (flax-vine. E. w. Au. ☉.) flowers sub-sessile: stigma acute: stamens 4 or 5. T.

Cyamus, Nelumbium.

20—12. Cy'cas. 100. Cycod. emo. amy. pith.

Remark. This plant is inserted because it is a genus much distinghished in Vegetable Physiology for its naked seeds; and its being intermediate between the Pines and Ferns.

Exotic.

circinalis, (sago plant.) frond pinnate: leafets lance-linear, acute, 1-nerved, flat. East Indies.

18—1. Cymbid'ium. 21. Orch. nut—. emo—.

pulchellum, Sw. (2) (grass pink. O. r. Ju. ♃.) radical leaves ensiform, nerved: scape few-flowered: lip erect, slender at the base: lamina spread: disk concave, bearded. Var. *graminifolia*, leaves 1 to 2 lines broad; bracted ones acuminate. 12—18 i. *S.* Mch.

5—2. Cymop'terus. 60. Umbe. stom. nar. if nau.

glaucus, N. (y. A. p. ♃.) stem stipe-form or none: leaves twice cut-pinnate, segments sub-pinnatifid: teeth somewhat oblong, apiculate: peduncles shorter than the leaves: involucre and involucels halved. R.

Cunila. Gr. *konilē*, the ancient name for the pennyroyal.
Cuphea. Gr. *kuphos*, crooked or gibbous; alluding to the capsules.
Cupressus. Gr. *kuō*, to bear, and *parisos*, equal, alluding to the regularity of its branches, or from *kupros*, the Greek name of the island Cyprus.
Cuscuta. Modern Gr. *kassuta*, perhaps from *kassuo*, to sew together; or from an Arabic word. The ancient name of a parasitical plant.
Cycas. The name of a little palm of Ethiopia. It is now applied to a Chinese plant, the pith of which is manufactured into the *sago* of the shops.
Cymbidium. Gr. *kumbē*, a little boat, referring to the shape of the lip.
Cymopterus. Gr. *kuma*, a wave, *pteris*, a wing; the wings of the fruit being undulated.

(1) Silene, Cucumis? perennis, James. (2) Limodorum, tuberosum, L. Callopogon pulchellus, Br.

terebinthinus, Doug. (   ) glabrous: root thick, fusiform, from which oozes a viscid resinous gum: leaves triply-pinnatifid, glaucous: divisions short, linear, acute: peduncles long: general involucre 0: leafets of the partial involucres linear, short, the half fruit with 5 broad, undulating wings. R. A.

glomerata, Dc. (W. w. J. ♃.) polygamous; smooth: low: stem sub-decumbent: leaves cut-biternate; lobes short, obtuse, decussate; petioles long: umbel short, 4 to 6-rayed: involucre 0; involucels halved, 5 to 7-parted.

18—5. CYNAN'CHUM. 47. Ascle. acr. stim. eme. sud.

Southern.

angustifolium, M. (1) (L. y-g. Ju. ♃.) twining: leaves linear, entire: flowers umbelled: peduncles the length of the leaves: divisions of the calyx linear.

laevi, Mx. (2) (W. p. J. ♃.) shoots somewhat glabrous: leaves sub-conoid-cordate, gradually acute, nerved, pubescent beneath: flowers glabrous; divisions of the corol oval-oblong, obtusish: follicles smooth.

scoparium, N. (E. g-y. ♄.) stem twining, striated, naked, (excepting young branches:) branches opposite: leaves linear, remote: umbels sessile, small flowered.

17—1. CY'NARA. 54. Cardu. sec-stim. if nau-cat. lax.

Exotic.

cardunculus, (cardoon. ♃.) leaves spinose, all pinnatifid: scales of the involucre ovate.

scolymus, (garden artichoke. ♃) leaves sub-spinose, pinnate: scales of the involucre ovate. Naturalized.

3—2. CYNO'DON. 10. Gram. far. ton.

dactylon, P. (3) (Au. ♃.) creeping: spikes digitate, (4—5) spreading: keel of the glume scabrous: leaves hairy on the margin and base: sheaths hairy. 1 f. *S.*

5—1. CYNOGLOS'SUM. 43. Borag. r. l. emo. ast.

officinale, (hound-tongue, tory-weed. O. p. J. ♂.) very soft pubescent: leaves broad lanceolate, sessile: racemes panicled. Mch.

amplexicaule, Mx. (4) (wild comfrey. W. w. & b. J. ♃.) very hirsute: leaves oval-oblong; upper ones clasping: corymbs terminal, leafless, long-peduncled. *S.* F. W. M. H. V. O. P. N. D. Mch.

Southern.

sylvaticum, S. (green-leaved hound-tongue. b. Ju. ♂.) nakedish: leaves spatulate-lanceolate, shining, scabrous beneath: racemes scattered.

pilosum? (W. w. M.) hairy: radical leaves spatulate-oblong; cauline ones lance-oblong, obtuse: flowers axillary, sub-spiked, secund.

5—2. CYNOSCIA'DIUM. 60. Umbe. stom. nar. if nau.

Southern.

digitatum, Dc. (5) (W.) leaves cut-palmate, segments 3, linear, very entire: fruit ovate, tapering to the base in a neck. Arkansas.

pinnatum. See Æthusa.

Cynosurus, ELEUSINE, CHLORIS.

Cynthia, KRIGIA.

Cynanchum. Gr. *kuon*, (*kunös*) dog, and *agcho*, to strangle, having the same meaning as Apocynum.

Cynara. Linneus says it is from *kuon*, (*kunos*) dog, on account of the stiff, hard spines of the involucre, which resemble the teeth of a dog.

Cynodon. Gr. *kuon* (*kunos*) dog, *odous*, tooth, probably referring to the acute corol.

Cynoglossum. Gr. *kuon* (*kunos*) dog, and *glossa*, tongue, from the resemblance of the leaves.

Cynosciadium. Gr. *kuon* (*kunos*) dog, *kaiadas*, hell: supposed to be destructive to dogs.

(1) Ceropegia palustris, Ph. (2) Gonolobus, Mx. (3) Digitaria, E. Panicum, L. (4) virginicum, L. (5) Œnanthe digitata, N.

3—1. CYPE'RUS. 9. Cype. far. nut. sug.

inflexus, M. (1) (W. Au. ♄?) umbel 2 to 3-rayed, or conglomerated and simple: involucre 3-leaved, very long: spikelets collected into ovate heads, oblong, 8-flowered: glumes squarrose at the tip. 2—3 i. *S.* V. Y. B. N. Canada.

flavescens, L. (yellow grass. O. Au. ♃.) spikelets linear-lanceolate, in fascicles of 3 to 4: glumes obtuse: style 2-cleft and lenticular: involucre 3-leaved, longer than the spikes. 6—8 i. *S.*

castaneus, Bw. (2) spikelets ovate-lanceolate, involucre three-leaved, longer than the umbel.

nuttall'ii, T. (W. L. Au. ♃.) culm acute-triangular: umbel radiated or sub-sessile, loose; rays short: involucre 4-leaved; two leaves longer: spikelets linear-lanceolate; compressed, acute: stamens 2: style 2-cleft: nut oblong-obtuse, compressed. 5—12 i. Peekskill.

diandrus, T. (S. ♃) culm slender, obtuse triangular: umbel sessile, or 1—2, rayed: involucre 3-leaved: two of the leaves longer than the umbel: spikelets lanceolate-oblong, much compressed, many-flowered, (14—16): glumes margined, acutish, keeled: stamens 2: style 2-cleft: nut oval, compressed. 8—12 i. B. N. Mch.

dentatus, T. (3) (S.) umbel compound, (6 to 10 rayed:) involucre 3-leaved, longer than the umbel: spikelets 3 on each ray, alternate-ovate, compressed, 8-flowered: glumes acute, nerved, spreading at the points: nut triquetrous. 1 f. B. N.

erythrorhizos, (4) (Au.) umbel decompound: involucre 3 to 6-leaved, long: spikes alternate, linear, horizontal: about 12-flowered, nearly terete: style 3-cleft: nut triquetrous. 1 f. A beautiful grass. T. K. M.

tenuis, Sw. (♃.) spikes lanceolate, acute, 10 to 17-flowered: umbel simple: involucre 3 to 4-leaved: longer than the rays: root tuberous. 8 i.

phymatodes, M. (W. Au.) umbel simple or decompound: involucre 3 to 9-leaved: three of the leaves very long: peduncles compressed: spikelets distichous, linear; lower ones branched, about 15-flowered: sides rather convex: glumes oblong, obtuse: radicles tuberous at the extremities. 1 f. P. T. O. H. Mch.

compressus, L. spikes digitate, somewhat in fours, lanceolate: glumes mucronate; broad, membranaceous. 3—8 i. *S.* La.

virens, Mx. culm acute-triangular: umbels decompound: spikelets ovate-lanceolate, capitate: involucre very long. 1—2 f. *S.* C.

mariscoides, E. (W. Au.) umbel simple or 1 to 2-rayed: spikelets capitate, linear, 7 to 8-flowered: glumes loose, obtuse. 8—12 i. *S.* B. O. H. P. N. T. D. M. Mch.

odoratus, L. (Au.) spikelets corymbed, subulate, remote, distichous: glumes somewhat distant: smaller umbels very spreading, about the length of their involucres. *S.*

flavico'mis, Mx. (W.) culm triquetrous: umbel compound: spikes linear-lanceolate, 7-flowered, (10 to 12-flowered, E.): glumes obtuse: involucre long, reflexed. *S.* T. C. S—C.

articulatus, Vahl. (Ju. ♃.) stem columnar, naked, jointed, erect, 3—6 f. *S.*

killingaeoi'des, Vahl. (J.) head globose: spikes oblong, convex, about 8-flowered: involucres 4-leaved, and with the keeled leaves loose. *S.*

strigosus, E. (W. S.) spikes oblong, loose: spikelets subulate, expanding, a little remote: small involucres generally wanting. partial umbels with alternate rays. 2—3 f. *S.* C. B. P. N. T. Mch.

alterniflorus, Sz. (W. ♃.) spike corymb-umbelled, compressed, central, sub-sessile; spikelets distichous: florets alternately distant: glume broad-ovate, keel mucronate. 1 f. D. Mch.

minimus, W. ( ) culm capillary, terete: spikes solitary or in pairs: involucre 1-leaved.

Southern.

poaeformis, Ph. (W. Ju.) spikes oblong, flattened, corymb-fascicled: fascicles sessile and peduncled: involucre 3-leaved, very long. 8 i. N.

fasciculatus, E. spikelets ovate-oblong, many-flowered, in terminal fascicles: involucre 2-leaved, and with the leaves linear, very narrow. 6 i.

Cyperus. Gr. *kuparos*, a small, round vessel, which its roots resemble.
(1) uncinatus, Ph. (2) flavescens, *Var.* castaneus, Ph. (3) parviflorus, M.
(4) tenuiflorus, L. strigosus, Sw?

autumnalis, Vahl. (Ju.) spikes linear, terminal, digitate, somewhat in threes: umbel as long as the 2-leaved involucre.

vegetus, Vahl. (Ju.) stem slender, obtusely 3-angled: umbels decompound; spikelets oval, in compact globose heads: involucre very long. 2—3 f.

formosus, Vahl. (W. ♃.) spikelets ovate, lanceolate, capitate: involucre about 6-leaved, very long, scabrous at the margin.

filiculmis, Vahl. spikelets linear, in globose heads, expanding: umbel about 1-rayed: involucre 2-leaved, with the stem setaceous.

filicinus, Vahl. (Ju. ♃.) spikelets linear-lanceolate, somewhat remote, loose-imbricate: involucre 3-leaved, longer than the umbel, with the leaves loose.

gracilis, M. (S. ☉.) stem slender, acutely 3-angled: leaves 3-angled: umbels compound; spikelets linear-lanceolate. 12 i. S—C.

tetragonus, E. ( ) spikes oblong, cylindric: spikelets somewhat 4 angled, few-flowered: small involucre wanting. 2—3 f.

distans, Vahl. ( ) spikes distichous; spikelets filiform, expanding: florets distant: umbel straight.

speciosus, Vahl. (S.) spikes corymbed; spikelets subulate, distichous: partial umbels shorter than the small involucres: ochreas 2-awned: stem acutely angled. 2—4 f. S—C.

enslen'ii, Ph. (Au.) spikes corymbose, oblong, branching at the base, naked: spikelets numerous, divaricate, crowded, linear, about 6-flowered: valves oblong, striate: involucre 8-leaved, as long as the umbel.

18—2. CYPRIPE'DIUM. 21. Orch. r. amy. emo. diu.

candidum, M. (white ladies' slipper. W. w. M. ♃.) stem leafy: leaves lance-oblong: lobe of the style lanceolate, obtusish: lip compressed, shorter than the lanceolate petals. P. Mch.

parviflorum, Sy. (1) (common ladies' slipper. W. y-g. M. ♃.) stem leafy: lobe of the style triangular, acute: outer petals oblong-ovate, acuminate; inner ones linear, contorted; lip shorter than the petals, compressed. *S.* Y. P. C. V. T.

pubescens, W. (2) (yellow ladies' slipper. W. y. M. ♃.) stem leafy: lobe of the style triangular-oblong, obtuse: outer petals oblong-ovate, acuminate; inner ones very long, linear, contorted; lip compressed, shorter than the petals. 12—18 i. *S.* T. O. P. D. F. N. M. Mch. Produces Salep.

spectabile, W. (3) (gay ladies' slipper. W. w. & p. J. ♃.) stem leafy: lobe of the style oval-cordate, obtuse: outer petals broad-oval, obtuse: lip longer than the petals, not split before. 18 i. *S.* W. T. Y. N. P. F. C. V. D. O. Maine. M. Mch.

acaule, A. (4) (low ladies' slipper. W. w. & p. M. ♃.) scape leafless, 1-flowered: leaves radical, in pairs, oblong, obtuse: lobe of the style round-rhomboid, acuminate, deflexed: lip longer than the lanceolate petals, split before. 12—18 i. *S.* T. C. B. O. F. D. P. N. M. Mch.

arietinum, A. (w. r. g. M. ♃.) stem leafy: lobe of the style orbicular, obtusish: petals 5; the two lower ones lance-linear, deflexed; the two lateral linear spreading; upper one ovate-oblong, acute; lip of the length of the petals, ob-conic before, saccate. 6 i. Canada, Maine. Damp. P.

5—1. CYRIL'LA. 51. Eric. diu. ast.

Southern.

racemiflora, L. (5) (w. J. ♄.) leaves lanceolate, cuneate at the base, coriaceous, very smooth: petals thrice as long as the calyx. 15 f. Sandy woods, Carolina. Charleston, La.

Cyrilla, PICKERINGA.

12—12. CYRTORHYNCHA. 61. Ranu. acr. poi.

ranunculina, N. (y. J. ♃.) leaves somewhat coriaceous and shining; radical ones on

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Cypripedium. Gr. *kupris*, Venus, and *podion*, slipper, from the form of the nectary.

Cyrilla. In honor of Dr. Cyrilli, an eminent botanist of Naples.

Cyrtorhyncha. Gr. *kurtos*, curved, *rugchos*, beak; in allusion to the incurved subulate stigma.

(1) calceolus, Mx. (2) flavescens, Redout. calceolus, Wr. (3) canadense, Mx. album, A. reginae, Wr. (4) humile, W. (5) caroliniana, Ph. Itea cyrilla, W.

long petioles, the sub-divisions pinnatifid: lobes entire, or 2 or 3-toothed. A span high. Rocky Mts.

Cytissus, GENISTA.

D.

3—2. DAC'TYLIS. 10. Gram. far. ton.

glomerata, L. (cock's foot grass. W. J. ♃.) panicle secund, glomerate: leaves carinate. 2—3 f. *S.* T. C. B. F. P. N. M. S. C.

17—2. DAH'LIA. 55. Helia. ton. sec-sti. sud.

Exotic.

superflua, (P. Ju. to Nov. ♃.) rays fertile: petiole winged; leafets smooth beneath. 6 f. Mexico. Should be pronounced, Daulia. Eng.

frustrania, (r. S. to Nov. ♃.) rays barren: petiole wingless; leafets roughish beneath. 6 f. Mexico. Var. *coccinea*, (scarlet daily) rachis of leaves winged: leafless, ovate, acuminate, serrate, shining, and smooth beneath: outer calyx reflexed. Var. *aurantia*, (orange daily) rachis of leaves naked: leaflets ovate-acuminate, serrate, roughish beneath: outer calyx spreading. Var. *lutea*, (yellow daily) leaves pinnate, leafets linear, pinnatifid toothed.

16—10. DA'LEA. 93. Legu. nut asc. ape.

ornatum, Doug. (1) (W.) spike oblong-cylindric: bracts longer than the villose calyx: leafets in 2 or 3 pairs, oval-oblong, glabrous. R.

formosa, T. & J. (W. p. ♃.) suffruticose, very branching, glabrous: leafets somewhat in 5 pairs, wedge-oblong, retuse, black punctate beneath: spikes lax, few-flowered, short-peduncled: bracts ovate, shorter than the calyx: calyx plumose-villose.

jamesii, T. (p. y.) whole plant silky: leaves trifoliate; leafets obovate, very obtuse.

Southern.

aurea, N. (W. y. Ju. ♃.) erect: spikes dense, cylindric: bracts rhomboid-ovate, as long as the calyx: calyx woolly-villose: leafets (about 9) obovate, pilose beneath. 2 f. Louisiana.

laxiflora, Ph. (W. w. Ju. ♃.) somewhat glabrous: stem very branching above: branches lax, elongated: spikes panicled, elongated, with remotish enneandrous flowers: bracts roundish, mucronate, keeled: calyx silky-villose: leaves about 4 pairs, linear. 6 f. Louisiana.

alopecuroides, W. (2) W. b. Ju. ☉.) spikes cylindric, peduncled, terminal, silky, crowded: bracts about as long as the calyx: leaves 6 to 12 pairs, oval, (toothed near the summit?) retuse, mucronate. 1 f. Mississippi.

jamesii, T. (p-y.) whole plant silky: leaves trifoliolate; leafets obovate, very obtuse: stipules spiny: spikes oblong, sessile: calyx deeply cleft; segments setaceous, plumose, longer than the vexillum; keel longer than the wings. Oregon. *Psoralea, jamesii.* 7th edition.

lanuginosa, N. (p. ♃.) decumbent, canescently tomentose: leafets 4 to 6 pairs, obovate-cuneate, emarginate, glands few, large: spikes elongated, rather loose: bracts ovate, with a long acummation: teeth of the calyx plumose, subulate, dilated at the base, as long as the tube. Arkansas.

Dalea, ASTRAGALUS.

11—13. DALIBAR'DA. (3) 92. Rosa. ast. ref-feb. r. stom.

repens, Lk. (4) (spice root, false violet. W. A. w. J. ♃.) villose: having creeping shoots: leaves simple, cordate, crenate: peduncles 1-flowered. T. Cat. Mt. and N. H.

Dactylis. Gr. *dactulos*, a finger, in allusion to the shape of its spikes.

Dahlia. In honor of Dahl, a Swedish botanist, pupil of Linneus.

Dalea.. In honor of Samuel Dale, an English botanist.

Dalibarda. In honor of M. Dalibard, a French botanist.

(1) Petalostemon, Hk. (2) cliffortiana, Ph. Petalostemon, do. Dalea linnaci, Mx. (3) Comaropsis, Dc. (4) violacoides, Mx. Rubus dalibarda, W.

fragaroides, Mx. (1) (dry strawberry. W. y. M. ♃.) leaves ternate; leafets wedge-form, gash-serrate, ciliate: peduncles many-flowered: tube of the calyx obconic. 5—8 i. T. O. Hanover, N. H. Mch.

Southern.

lobata, Bald. (y. M. ♃.) hairy: leaves nearly round, cordate, lobed-crenate, ciliate. stem somewhat naked: peduncles many-flowered. 5 i.

3—2. DANTHO'NIA. 10. Gram. far. ton.

spicata, W. (2) (wild-oats. W. Ju. ♃.) panicle simple, appressed; spikelets 7 to 9, about 7-flowered: outer palea hairy: leaves subulate: lower sheaths hairy at the throat. 18—24 i. C. O. M. N. T. D. M. Mch.

glumosa, Mx. (3) (Ju.) culm erect: raceme compound: branches 2 and 3-flowered: spikelets 9 to 13, 8 and 9-flowered, somewhat shorter than the glumes: paleas very unequal, outer lanceolate, densely villose on the margin, bristly, 2-cleft at the apex, with a central twisted awn; inner valve ciliate, much shorter. S. Y.

8—1. DAPH'NE. 25. Thym. cau—. cat—.

Exotic.

meze'reum, (mezereon. r. & w. M. ♄.) flowers sessile, cauline, in threes: leaves lanceolate. Var. *rubra*, has red flowers. Var. *alba*, has white flowers. 4 f.

odo'ra, (sweet mezereon. w. Ap. ♄.) having many flowers in little terminal heads: leaves scattered, lance-oblong, glabrous. 3 f.

15—10. DARLINGTO'NIA. (4) 93. Leg. asc. ape. ton.

intermedia, T. & J. (W. ♃.) unarmed, herbaceous, glabrous: leaves 8 or 9 pairs: leafets 20 to 24 pairs, oblong-linear, with glands between the lower leaves: little heads solitary, axillary, peduncled: legumes falcate.

Southern.

brachy'loba, Dc. (W. ♃.) unarmed, herbaceous, glabrous: leaves 6 to 8 pairs; leafets 16 to 24 pairs, linear, with glands between the lower leaves: little heads solitary, axillary, peduncled: legumes shortish, lanceolate. Kentucky, &c.

glandulo'sa, Dc. (W. ♃.) unarmed, herbaceous, glabrous: leaves 12 to 14 pairs; leafets 20 to 30 pairs, linear, with glands between all the leaves: little heads solitary, peduncled, axillary: legumes falcate. Tennessee.

20—12. DATIS'CA. 98. Dati. nar. ton. ano.

hirta, W. (false hemp. y. ♃.) stem hirsute: leaves pinnate; leafets running together at the base. Flowers small, panicled. P.

5—1. DATU'RA. 41. Sola. poi+. nar. l. esc. *conv. epi. ast.*

stramo'nium, L. (green thorn-apple. O. w-b. Au. ☉.) pericarps spinose, erect, ovate: leaves ovate, glabrous, angular-dentate. S. Mch.

tat'ula, L. (purple thorn-apple. O. b. Ju. ☉.) pericarps spinose, erect, ovate: leaves cordate, glabrous, toothed. This species is considered only a variety of the first by some botanists. Stem reddish. S. M. Mch.

metel, W. (W. w. J. ☉.) leaves cordate, nearly entire, pubescent: pericarps prickly, globose, nodding. Naturalized about N. Haven.

Danthonia. In honor of M. Danthoin, a French botanist.

Daphne. After the nymph Daphne, in allusion to her change into a laurel, which some species of this genus resemble.

Darlingtonia. In honor of Dr. William Darlington, of Pennsylvania, author of Flora Cestrica.

Datisca. Probably from Gr. *datesso*, to devour, because it spreads rapidly, and destroys other plants.

Datura. An alteration of the Arabic name *tâtôrah*. About Goa and Canara it is called Daturo.

(1) Dryas trifoliata, Pallas. (2) Avena, L. (3) sericea, N. Avena, L. (4) Acacia, Mimosa.

ceratocaulon, Ort. (w. Ju. ☉.) leaves ovate, lanceolate, wavy, beneath hoary: stem dichotomous, cornute: pericarps obovate, pendulous.

5—2. DAU'CUS. 60. Umbe. stom. r. nut. cata. *ulc.*

caro'ta, W. (carrot. W. w. J. ♂.) carpels hispid: petioles nerved underside; divisions of the leafets narrow-linear, acute. 2—3 f. Naturalized and cultivated.
pusillus, Mx. ( ) stem retrorsely hispid: leafets with the segments very small, linear-lanceolate: umbels small: carpels muricate, with 8-crested ribs. Var. *microphyllus* (W) stem soft-villose: leaves with gash-linear segments. 16—18 i. P. R. Carolina. Red River.
microphyllus, Dc. ( ) stem with soft hairs at the base turned backwards: leaves cut-bi-pinnate, villous; segments cut into linear divisions: leafets of the involucre pinnatifid, about equalling the small crowded umbel: prickles of the ovate fruit about equalling its breadth. R. A.

Decodon, LYTHRUM.

11—1. DECUMA'RIA. 89. Phil. ton. ape.

Southern.

barbara, W. (decumary. w. Ju.) leaves ovate-oblong, acute at each end, slightly serrate.
sarmentosa, W. (J.) leaves ovate, acute, rounded at the base, serrate at the top. Charleston, S. C. Florida.
alata, stem compressed: leaves pinnate, confluent, ribbed, linear, entire. In the sea.

12—2. DELPHIN'IUM. 61. Ranu. acr. cau. poi. dra-eme. h. cos.

exaltatum, W. (1) (W. A. b. Ju. ♃.) petioles not dilated at the base; leaves flat, 3-cleft below the middle; lobes wedge-form, 3-cleft at the apex, acuminate; lateral ones often 2-lobed: racemes straight: spur longer than the calyx. 2—4 f. *S.* P. R. M.
azureum. M. (2) (W. b. M. ♃.) petioles slightly dilated at the base; leaves 3—5-parted, many-cleft: divisions linear: racemes straight: petals densely bearded: flowers short pedicelled. 2 f. *S.* K.
virescens, N. (W. g-w. ♃.) pubescent: nectary 4-leaved, shorter than the 5 calycine petals, inner laminae densely bearded: leaves 3-parted: divisions linear, sub-trifid, lower ones divaricate. 8—12 i. *S.* D.
simplex, Douglass (W.) pubescent: petioles dilated at the base; leaves 3-parted, with deep linear divisions: racemes simple, straight: petals bearded; spur straight, longer than the limb. Rocky Mt. and west.
bicolor, N. (y. & b. Ap. ♃.) small; somewhat villose; few-flowered: leaves digitate, 5-parted; lobes 3—5-cleft, divisions linear, short: bracts undivided: petals shorter than the calyx; lower ones hairy: spur curved, of the length of the calyx. R.
pauciflorum, N. (b.) somewhat hirsutely pilose: petioles scarcely dilated; leaves reniform, lobes bifid or trifid, linear and entire: bracts simple, minute: raceme 3—5-flowered: spur subulate, straight, about the length of the oblong-acutish petals: stigmas and styles smooth: root grumous. Oregon, Rocky Mts.
depauperatum, N. (b. y.) lower part of the stem glabrous; upper part and the carpels densely villose: petioles scarcely dilated; leaves reniform 5-parted; the lobes 2—3-cleft, oblong and rather broad: bracts simple, minute: raceme 1—5-flowered: spur subulate, straight, longer than the oblong, obtuse petals: stigmas and styles pubescent: root grumous. Oregon.

Exotic.

consolidum, (larkspur. W. b. Ju. ☉.) nectaries 1-leaved: stem sub-divided. Naturalized. 4 f.

Daucus. The Greek name of the carrot.
Decumaria. Lat. *decuma*, or *decema*, tenth, in allusion to the division of the flower and fruit into tenths.
Delphinium. Gr. *delphin*, the dolphin, because the nectaries are like the head of that fish.
(1) tridactylum, Mx. urceolatum, Ju. (2) carolinianum, Wr.

staphisagrium, (b. Ap. ♂.) nectary 4-leaved, shorter than the petals: leaves palmate, with obtuse lobes. 2 f.

ajacis, (rocket larkspur. b. Au. ☉.) nectary 1-leaved: stem simple. 2 f.

Southern.

tricorne, Mx. (W. b-w. M. ♃.) petiole scarcely dilated at the base, glabrous: leaves 5-parted; divisions 3—5-cleft, segments linear: nectary shorter than the corol: carpels arched, expanding from the base. 8—12 i.

californicum, T. (b.) petioles dilated at the base; leaves palmately 3—5-cleft; divisions incisely 3-lobed: raceme strict, and with the flowers, pubescent: spur as long as the calyx, incurved: limb of the superior petals notched; lower ones 2-cleft, densely bearded on the inside; the claw furnished with a minute spur-like process at the base. California.

vimineum, Don. (b. Jn. Aug.) petioles scarcely dilated at the base; leaves flat, 3-parted; segments cuneiform, obtuse, 3-lobed, mucronate; uppermost ones linear, undivided or 3-parted: racemes loose, velvety: limb of the inferior petals bifid at the summit; spur straight, as long as the sepals: ovaries silky. 1—3 f. Texas.

variegatum, T. (b. y.) pubescent: petioles dilated at the base; leaves 3-parted; divisions cuneiform, many-cleft, with the lobes linear and rather obtuse: raceme few-flowered: spur scarcely as long as the sepals; lower petals orbicular-ovate, 3-lobed, with the middle lobe small, sparingly bearded. 1—2 f. California.

nudicaule, T. (p-r.) leaves all radical, on short petioles, 3-parted: lobes obovate-cuneiform, the lateral ones 2-lobed, terminal one somewhat 3-lobed: scape racemose, loosely flowered; pedicels elongated: spur straight, longer than the broadly ovate sepals; upper petals a little exceeding the calyx, lower ones 2-cleft, with a minute spur-like process at the base. 12—18 i. California.

12—2. DENDROMECON. 62. Papa. e. nar. ano. ast. acid.

Southern.

rigidum, (Benth. y. ♄.) glabrous, branching: leaves rigid and coriaceous, articulated with the stem, lanceolate or oblong, cuspidate, acuminate, strongly reticulate, denticulate on the margin: peduncles axillary, 1-flowered, flowers large. A shrub. California. Poppy tree.

14—2. DENTA'RIA. 63. Cruc. asc. nut. r. con.

diphylla, Mx. (tooth-root, trickle, pepper-root. W. w. M. ♃.) stem 2-leaved: leaves ternate, ovate-oblong, unequally gash-toothed: root toothed. 6—8 i. S. R. T. O. F. N. V. M. Mch.

laciniata, W. (1) (W. w. M. ♃.) leaves in threes, ternate; leafets 3-parted, segments oblong, gash-toothed: root tuberous, moniliform. 8 i. S. T. Y. D. N. M. O. P. C. Niagara. M. Mch.

heterophylla, N. (W. p. w. J.) stem 2-leaved: leaves ternate, petioled; leafets linear, sub-lanceolate, acute, entire; margin rough, ciliate: radical leafets ovate oblong, coarsely gash toothed. Very small. Always one radical leaf with a long petiole. P.

maxima, N. (W. p. ♃.) leaves numerous, alternate, petioled; leafets ternate, sub-oval, gash-toothed; lateral ones lobed: axils without glands: racemes lateral and terminal. 12—18 i.

macrocarpa, N. (   ) root fibrous and tuberous: radical leaf 3-foliolate, the leafets reniform and lobed; cauline leaf solitary, 3-parted, the segments entire, obtuse: silique very long. Oregon.

Southern.

multifida, M. (p.) stem 2-leaved; leafets many-parted: segments linear, somewhat acute. 10 i.

tenella, Ph. (W. p. Au. ♃.) stem 2-leaved: leaves distant, sessile, ternate; leafets linear-oval, entire: petals wedge-form.

integrifolia, (   ) rhizoma tuberous: tall and rather robust: radical leaves bifoliate, leafets roundish oval; cauline 3, alternate, 3-parted or trifoliolate; divisions linear-

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Dendromecon. Gr. *dendron*, tree, *mekon*, poppy.

Dentaria. Lat. *dens*, a tooth, because the roots are furnished with projecting angles, which resemble the molar teeth of quadrupeds.

(1) concatenata, Mx.

oblong, acute, entire: siliques rather short, on long peduncles: petals very large. 12—18 i. Upper California.

californica, N. ( ) rather robust: leaves trifoliolate; cauline ones alternate; leafets ovate or ovate-lanceolate, crenate or incisely denticulate, acute: siliques lanceolate-linear, rather long. 12—18 i. Upper California.

Desmodium, Hedysarum.

Diamorpha, Sedum.

10—2. Dian'thus. 82. Cary. emo.

armeria, L. (pink. r. Ju. ☉.) flowers aggregate, fascicled: scales of the calyx lanceolate, villose, equalling the tube. 1 f. Introduced. New Jersey. C. B.

repens, W. ( ) stem 1-flowered: calycine scales 2, ovate lanceolate, acuminate, a little shorter than the calyx: petals toothed: leaves linear, glabrous. N. W. Coast.

Exotic.

barbatus, (sweet william. r. & w. Ju. ♃.) flowers fascicled: scales of the calyx ovate, subulate, equalling the tube: leaves lanceolate.

caryophyllus, (carnation. r. &. w. ♃.) flowers solitary: scales of the calyx sub-rhomboid, very short: petals crenate, beardless: leaves linear-subulate, channelled. By rich culture, the stamens mostly change to petals.

chinensis, (china pink. Ju. ☉.) flowers solitary: scales of the calyx subulate, spreading, leafy, equalling the tube: petals crenate: leaves lanceolate.

plumarius, (single pink. r. & w. ♃.) flowers solitary: scales of the calyx sub-ovate, very short and obtuse, awnless: corol many-cleft, with the throat hairy.

Southern.

carolinianus, Wr. ( ) flowers aggregate: peduncles long: scales smaller than the halved tube.

5—1. Diapen'sia. 44. Hydr. ton.

lapponica, W. (1) (A. w. Ju. ♃.) cespitose: leaves spatulate, glabrous: flowers pedunculate: anthers oblique, awnless. White hills. Bw.

cuneifolia, Sy. (2) (A. w. J. ♄.) creeping: leaves lance wedge-form, pubescent below: flowers sessile: anthers horizontal, beaked at the base. S. Y. White hills, Peck.

3—2. Diarrhe'na. 10. Gram. far. ton.

americana, M. (W? Ju. ♃.) culm erect, almost naked, slender, slightly compressed, scabrous above: sheaths sub-pubescent: panicle racemed: branches few-flowered, appressed: spikelets about 2-flowered: florets diverging. H. Mch.

5—2. Dichon'dra. 44. Conv. r. cate.

Southern.

caroliniensis, Mx. (p. J. ♃.) pubescent: leaves reniform-emarginate, one-colored: calyx villose, ciliate. Creeping. La.

Dichroma, Dichromena.

Dianthus. Gr. *Dis.* (*Dios*) Jupiter, and *anthos*, flower; so called from the fragrance and elegance of the genus.

Diapensia. An ancient Gr. name of the Sanicle, as a vulnerary.

Diarrhena. Gr. *dis*, two, *arrene*, rough, alluding to the two rough keels on the upper chaffs.

Dichondra. Gr. *dis*, two, and *chondros*, a grain; from the double nature of the capsule.

(1) obtusifolia, Sy. (2) Pyxidanthera barbulata, Mx.

3—2. Dichro'mena. 9. Cype. far. fod. ton.

leucoceph'ala, Mx. (Au. ♃.) involucre somewhat 3-leaved, white at the base: head white. 1 f. C. Charleston, S—C.

Southern.

ciliata, Ph. (Ju.) involucre and leaves ciliate at the base: spikelets oblong, tapering.
latifolia, Bald. (J. ♃.) involucre many-leaved, large, with the leaves white: heads compressed: leaves very long, loosely sheathing the stem. 9—18 i.

21—1. Dickso'nia. 5. Fili. sec. stim.

pilosiuscula, W. (1) (fine haired fern. Ju. ♃.) frond bipinnate: leaves decurrent, ovate oblong, pinnatifid; divisions somewhat 4-toothed: fruit dots solitary: rachis pubescent: stipe glabrous. 2—3 f. S. C. P. H.

16—10. Dielytra. (2) Legn. bit. dem.

cucullaria, Dc. (colic-weed. O. y. w. M. ♃) corol 2-spurred: scape naked: raceme simple, 1-sided: nectaries divaricate, of the length of the corol: style enclosed. 8—12 i. S. R. Mch. Corydalis cucullaria. W. H.
formosa, Dc. (A. r. M. ♃.) scape naked: raceme somewhat compound, nodding, many-flowered: nectaries very short, incurved: style extended: root tuberous. 6—10 i. S. V. O. N. Canada, Mch. Corydalis formosa, Ph.
canadensis, Dc. (g-w. p. April.) spurs short, rounded: wing of the inner petals projecting beyond the summit: raceme simple 4—6-flowered. Canada to Kentucky. Corydalis canadensis, Goldie.
saccata, N. (r.) spurs short, very obtuse, saccate: wings of the inner petals scarcely projecting: raceme somewhat compound, few-flowered: stigma triangular, entire: leaves numerous: rhizoma creeping. Oregon.
lachenaliaefolia, Dc. (p.) spur very short and obtuse: scape 3—4-flowered: pedicels longer than the calyx: leaves many-cleft, with linear very acute lobes. Islands N. W. America.

5—1. Diervilla. 58. Cape. ast. fra.

canadensis, M. (3) (bush honey suckle. O. y. J. ♄.) peduncles axillary and terminal, dichotomous, 2—3-flowered: leaves ovate, serrate, acuminate. 2—3 f. S. Mch.

13—2. Digital'is. 37. Sed. h. abs+. diu+. feb+. *dro. epi. ast.*

Exotic.

purpurea, (foxglove, p. Ju. ♂.) sepals ovate, acute: corol obtuse; upper lip entire: leaves lance-ovate, rugose.
intermedia, (p. Ju.) sepals lanceolate, equal: corol slightly pubescent; upper lip emarginate, 2-cleft, leaves pubescent at the margin and base. Flowers in Sept. in A. P. Heartt's garden, 1838.

3—2. Digita'ria. 10. Gram. far. fod.

sanguinalis, Scop. (finger-grass, crab-grass. W. S. ☉.) spikes numerous, fascicled, a little spreading: leaves and sheaths somewhat hairy: spikelets oblong: florets pubescent on the margin. 1—2 f. S. C. T. O. F. P. N. V. M. Mch. S. C.

Dichromena. Gr. *dis*, two, and *chroma*, color, alluding to the variegation of white and green in the corol.
Dicksonia. In honor of James Dickson, a distinguished Cryptogamic botanist of Great Britain.
Dielytra. Gr. *dis*, two, *elutron*, outer wing.
Diervilla. In honor of M. Dierville, a French surgeon who discovered it.
Digitalis. Lat. *digitale*, a thimble, or finger of a glove, from the resemblance of the flowers.
Digitaria. Lat. *digitus*, a finger, the spikes being digitate or finger like.

(1) pubescens, Sh. Aspidium punctilobum? W. Nephrodium punctilobium, Mx.
(2) Corydalis, Dc. (3) lutea, Ph. humilis, P. tournefortii, Mx. Lonicera diervilla, L.

glabra, R. & S. (W. Au. ⊙.) spikes digitate, sub-alternate (3—4,) spreading: leaves and sheaths smooth: spikelets ovate, crowded: glumes equal to the abortive floret, both hairy. 1 f. C. H.

serotina, Mx. (W. ♃.) decumbent: leaves and sheaths very pubescent: spikes numerous, setaceous: spikelets all pedicellate: inferior glume very minute. 12—18 i. *S.* C. T.

filiformis, E. (W. Au. ⊙.) culm erect, filiform: leaves somewhat glabrous: spikes 2—4, filiform, erect: spikelets in threes, all pedicellate: glumes as long as the abortive floret, pubescent. 12—18 i. *S.* Y. P. C. M. N. M. L. C. Mch.

paspaloides, Mx. (Au. ⊙.) spikes in pairs, sub-villose at the base: rachis broadish, glabrous: flowers solitary, imbricate two ways, glabrous: leaves spreading; sheaths glabrous, villose at the neck: culm creeping. *S.* Y. P. N.

3—1. Dila'tris. 18. Haem. ton. dye.

tinctoria, Ph. (1) (red-root. y. Ju. ♃.) petals lanceolate, downy outside: panicle corymbed, downy: leaves long, naked, linear. 2 f. *S.*

4—1. Dio'dia. 57. Cinch. feb+. ton.

virginica, W. (w. Au. ♃.) glabrous: stem procumbent, nearly terete: leaves lanceolate: corol glabrous within: fruit oblong, glabrous. *S.* Charleston, S—C.

Southern.

tetragona, Wr. (w. M. ♃.) stem procumbent, somewhat angled, nearly glabrous: leaves cordate-ovate: stipules subulate. S—C.

hirsuta, Ph. (w. S. ♃.) hirsute: stem procumbent: leaves lanceolate: stipules nearly setaceous. Perhaps a variety of the last. E. S—C.

teres, Wr. (2) (W. Ju. ⊙.) stem terete, procumbent: leaves lance-linear: lobes of the stipules setaceous, longer than the fruit: corol bearded within: fruit ovate, pubescent; crowned with the 4 lanceolate lobes of the calyx. 4—12 i. S. P. Y. Charleston, S. C.

10—1. Dionæ'a. 68. Dros. acr—. ton—.

Southern.

muscipula, W. (venus' fly-trap. w. Ju. ♃.) radical leaves, with terminal ciliate appendages, somewhat resembling a rat trap; this is suddenly closed on being irritated.

20—6. Diosco'rea. 12. Dios. nut-ton. amy.

villosa, L. (3) (yam root. J. ♃.) leaves alternate, opposite and whorled, cordate, acuminate, pubescent beneath, 9-nerved; lateral nerves simple: stem climbing. *S.* P. Y. C. B. F. D. Owego. S. C. M. Mch.

quaternata, Wr. (4) (J. ♃.) leaves verticillate by fours, and alternate, cordate, acuminate, glabrous, 7 to 9-nerved: lateral nerves divided. Stem climbing. P. M.

20—13. Diospy'ros. 49. Eben. f. edi. ton. b. ast+. feb. w. cab.

virginiana, (persimmon, seeded plum. w-y. M. ♄.) leaves ovate-oblong, acuminate, glabrous, reticulate-veined; petioles pubescent: buds glabrous. Var. *pubescens*, leaves oblong, acute, pubescent beneath: petioles long: fruit bearing few seeds. This is made a distinct species by Pursh. *S.* Y. P. F. C. O. S. C. M. ebony

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Dilatris. Gr. *dis*, double, and *latris*, servant or attendant, because Bergius found two long, and one short stamen.

Diodia. Gr. *diodos*, way or passage; in allusiou to its growing by way sides.

Dionæa. From Dione, a name of Venus, from the elegance and delicacy of its flowers.

Dioscorea. In honor the Greek botanist, Dioscorides.

Diospyros. Gr. *Dios*, Jupiter, and *puros*, fruit, from the excellence of the fruit.

(1) heritiera, P. Lachnanthes, E. (2) Spermacoce diodina, Mx. (3) paniculata, Mx. (4) glauca, M.

19—4. Dio'tis. 29. Chen. ton—.

Southern.

lanata, Ph. (W. J. ♄.) all over hoary-tomentose: stem flexuous: glomerules of the spikes very crowded.

6—1. Diphyll'ia. 78. Berb. ref. ton—.

Southern.

cymosa, Mx. (A. w. J. ♃.) very glabrous: leaves sub-palmate, angularly lobed, serrate: lobes acuminate: cyme many-flowered.

17—2. Diplopap'pus. 55. Aste. ton. sec-sti.

albus, Lind. (W. y. w.) leaves lance-linear, sub-entire, scabrous, base long, narrow below, petioled: stem simple, corymbed, scabrous, branchlets somewhat 1-flowered, sub-aphyllous: leafets of the involucre oblong-linear, sub-glabrous, obtuse. D.

canescens. H. ( ) hoary pubescent: leaves lance linear, very entire; very narrow at the base below, long petioled: stem simple, corymbose: branchlets 1-flowered, long, leafy: leafets of the involucre narrow, very acute, hirsute-scabrous. A.

grandiflorus, H. ( ) canescent: stem sub-decumbent, branching below the base: leaves linear-oblong below, spatulate: branches mostly simple, one-flowered, nakedish: leafets of the involucre narrow, very acute, hirsute-scabrous. R.

incanus, Lindl. (p.) wholly whitish: leaves linear, soft, distant, acute, finely mucronate: branches long, corymbose, forming a head; apex naked: leafets of the ovate, glandulous involucre linear, in many series, outer ones squarrose. 2½ f. A.

filifolius, H. (y.) hoary: leaves all linear-filiform: branches long, sub-corymbose, 1-flowered: leafets of the involucre imbricate narrow, acute, pubescent-scabrous: egret white. 10—12 i. R.

linearis, H. ( ) low: stems sub-caespitose, erect, simple, apex nakedish, 1-flowered: leaves all linear-filiform, sub-spatulate, flower terminal: leafets of the involucre narrow, pubescent-scabrous: egret yellow. 4—6 i. R.

pinnatifidus, H. (y. ♃.) stems numerous from the same root, erect, much branched above: corymbs many-flowered: leaves sub-bipinnatifid, segments narrow-linear, mucronate, with terminal hairs: leafets of the involucre linear subulate, mucronate, pubescent. R.

hispidus, H. (y.) wholly hairy, hispid with spreading hairs: leaves oblong-spatulate, narrow at the base, sub-petioled: branches sub-corymbose: leafets of the involucre narrow, acute, somewhat glabrous: egret downy. A.

4—1. Dips'acus. 56. Dips. ton—.

sylvestris, L. (wild teasel. O. b. Ju. ♂.) leaves connate, and opposite, sinuate: chaff straight: head involucred. 3—4 f. S.

Exotic.

fullo'num, (teasel. w. Ju. ♂.) leaves sessile, serrate: chaff hooked. 3—6 f.

8—1. Dir'ca. 25. Thym. b. cat.

palustris, W. (leather-wood, moose-wood, american mezereon. W. y. Ap. ♄.) leaves oval: flowers axillary, 2 or 3 in a hairy bud-like involucre. Small bush; bark very tough. 1—5 f. S. T. C. O. F. D. P. N. V. M.

Diotis. Gr. *dis*, double, and *ous*, (*otos*) ear, from the two appendages which exist at the base of the florets.

Diphyllia. Gr. *dis*, double, and *phullon*, leaf, because the plant has two leaves.

Diplopappus. Gr. *diploos*, double, *pappos*, woolly flower or egret, on account of the egret being in a double series.

Dipsacus. Gr. *dipsakos*, teasel, also diabetes. It is from *dipsa*, thirst; as the diabetes excites thirst, and the teasel was used as a remedy.

Dirca. Gr. *dirka*, a fountain or wet place, its usual place of growth.

5—2. Discopleu'ra. (1) 60. Umbe. stom—.

capillacea, Dc. (bishop weed. w. Au. ☉.) erect or procumbent: umbels 3 to 10-rayed; leafets of the involucre 3 to 5, almost all trifid. Wet. Carolina to Boston. C. N.
nuttallii, Dc. (☉.) erect: umbels with 20 rays: leafets of the involucre mostly 5—6; involucel 5-leaved, about equalling the little umbel. Red river.

5—1. Dodeca'theon. 35. Prim. nar—.

meadia, W. (false cowslip. W. p. M. ♃.) leaves oblong-oval, repand-toothed: umbels many flowered, lax: bracts oval. Woods near rivers. 8—10 i. *S.* P. H. M. Chicago.
integrifolium, Mx. (W. b. J. ♃.) leaves sub-spatulate, entire: umbels few-flowered, straight: bracts linear. P.

8—1. Dodonaea. 65. Sapin. f. det. acr. nar. sap.

Southern.

viscosa, L. ( ) leaves viscous, ovate-oblong, cuneiform at the base. St. Augustine, Florida.

16—10. Dolichos. 93. Leg. ath+. irr+.

multiflorus, T. (p. w. ♃.) stem twining pubescent: leaves orbicular, short acuminate, nearly glabrous when mature: racemes axillary, densely spiked, many-flowered, about as long as the petioles. 5—10 f. Arkansas, Georgia.
purpureus, L. (wild cowhage. p. ☉.) twining: stem glabrous: petioles pubescent: corol with spreading wings. P. La.

Exotic.

pruriens, (cowage, or cowitch. p. ☉.) twining: leaves hairy beneath: legumes in racemes: valves slightly keeled, hairy: peduncles in threes. Legumes covered with stinging hairs. ath+.

Southern.

luteolus, W. (w-y. Ju. ☉.) climbing, pubescent: leafets ovate, acuminate: peduncles longer than the leaves: spikes short, somewhat capitate: banner broad, reflexed; wings rhomboidal. 4 f.

17—2. Don'ia. 55. Eupa. ton. sec-stim. feb.

Southern.

squarrosa, Ph. (W. y. Au. ♃.) herbaceous: leaves clasping, serrate: scales of the involucre filiform at the apex, squarrose, revolute. Whole plant viscous. 3—4 f.
lanceolata, W. (♂.) glabrous: leaves half clasping, linear-lanceolate, cut-serrate: scales of the involucre filiform, straightish. Arkansas.
pubescens, N. (♂?) leaves clasping, oblong-ovate, acute, sharply serrate: branches fastigiate, pubescent, somewhat 1-flowered. Arkansas.

Doronicum, Arnica.

14—1. Dra'ba. 63. Cruc. asc. edi. ase.

caroliniana, Wr. (2) (W. w. Ap. ☉.) flower-bearing stems naked: leaves oval acute, very hirsute: silicles long-linear, glabrous, approximate. 1—2 i. *S.* Y. C.
glabella, Ph. (☉.) scape about 2 leaved, erect: leaves lance-spatulate, somewhat glabrous: raceme dense-flowered: silicle lance-ovate, acute.

Discopleura. Gr. *diskos*, disk, *pleura*, side, in reference to the fruit.
Dodecatheon. Gr. *dodeka*, twelve, and *theos*, divinity. An old name renewed by Linneus on account of its beauty.
Dodonaea. In honor of Dodoens, an old botanist.
Dolichos. Gr. *dolichos*, long; so called from its long stem.
Donia. In honor of John Don, an acute Scotch botanist.
Draba. Probably from the Gr. *drassō*, to sneeze, from the effect it has on the nose when eaten.

(1) Sison. Ammi, Mx. (2) umbellata, M. hispidula, Mx.

incana, W. (J. ♂.) cauline leaves hoary, numerous, with interwoven stellate hairs: silicle oblong, oblique, mucronate with a very short style. R.

arabizans, Mx. (1) (W. M. ♂.) stem leafy, rarely branched: radical leaves wedge-lanceolate; cauline ones lanceolate, acute: silicles acuminate with the permanent style. *S.* P. New England, Canada.

alpina, L. (S. Ap. ♃.) scape naked, simple: leaves lanceolate, entire, spreading: petals sub-emarginate. R.

hirta, L. (rough whitlow grass. w. Ap.) scape few or 1-leaved: leaves oblong, acute, dentate somewhat hirsute: silicle oblique, pedicelled. R.

glacialis, Hk. (W. y.) scape naked: leaves lance-linear, rigid, entire, radiate-hairy: petals twice as long as the calyx: silicles long-racemed, oblong-ovate: style short. Rocky Mts.

algida, Dc. (L. y.) flaccid: scape short, naked, spread-pilose: leaves oblong, flat: leaves and calyx pilose; hairs mostly simple: silicles sub-corymbed, elliptic, glabrous.

oligosperma, H. (w.) scape naked, sub-pubescent: leaves erect, rigid, linear, ciliate, somewhat shining on both sides, but especially towards the apex, stellately pubescent: petals twice as long as the fine haired calyx: silicles pubescent, long-racemed, elliptic, acute at both ends, 4—8-seeded: style ¾ as long as the silicle. A.

pauciflora, H. (y.) scape leafless: scape and pedicels pilose: leaves lanceolate, very entire; hairs simple and forked: petals spatulate, scarcely longer than the hirsute calyx: germ glabrous. A.

micropetala, H. (w.) scape leafless: scape and pedicels pilose: leaves broad lanceolate, somewhat veiny, entire; hairs forked and simple: petals narrow-spatulate, scarcely exceeding the sub-pilose calyx: silicles elliptic: stigma sessile, emarginate. A.

muricella, Dc. (w.) scape naked, velvety: leaves oblong, entire, stellately pubescent; bluish-velvety: silicles lance-oblong, glabrous. A.

oblongata, Dc. ( ) scape naked, sub-hirsute, with woolly pubescence: leaves cespitose, oblong-linear, entire: ciliate and velvety silicles oblong-oval, velvety. A.

corymbosa, Dc. ( ) scape naked, finely hispid: leaves densely cespitose, oblong, tapering to the base, ciliate and sub-hispid: silicles oval, corymbose, finely hispid. A.

rupestris, Br. ( ) scape naked or 1-leaved, pubescent: leaves oblong-spatulate, sub-hirsute and ciliate: silicles oblong, pubescent or glabrous: style very short; stigma emarginate. R. Probably identical with D. *nivalis*. W.

lapponica, Dc. ( ) scape naked, very glabrous: leaves lanceolate, very entire, fine-haired: silicles lance-ovate, pedicelled and very glabrous. A.

stellata, Dc. scape 1-leaved, pubescent: leaves oval-oblong with short stellate pubescent down: pedicels fine-haired: siliques oblong. A.

laevipes, Dc. ( ) scape naked or 1-leaved, pubescent: leaves ovate with short stellate pubescent down: silicles long-linear, pedicelled, very glabrous. R.

crassifolia, Graham. (w. y.) scape naked or 1-leaved: pedicels and calyx very glabrous: leaves linear-spatulate, sub-fleshy, with simple ciliate hairs: petals retuse at the apex, a little exceeding the calyx. R.

confusa, Dc. ( ) stem leafy, sub-ramose, short-velvety with stellate pubescence: leaves oblong, sub-dentate: silicle oblong, pubescent, longer than the pedicel. R.

unalaschiana, Dc. stem leafy with simple pubescence: leaves ovate-oblong, entire, pubescent: silicles oblong, finely hirsute: petals twice as long as the calyx, limb obovate, emarginate. A.

aurea, Vahl. (A. y.) pubescent: stem erect, leafy: leaves lanceolate or lance-ovate, acute, entire or dentate: corymbs terminal and axillary: silicles lance-oblong, pubescent, three times as long as the pedicel: petals emarginate: style rather long. R.

lutea, Gilib. (y.) pubescent: stem ramose, leafy: leaves oval; cauline ones lanceolate, dentate; silicles elliptic-oblong, glabrous, about 30-seeded, about one third as long as the pedicel. A.

muralis, L. (w.) pubescent: stem ramose, leafy: leaves broad ovate; cauline ones cordate, sub-amplexicaule, deeply toothed: silicles oval-oblong, about 16-seeded, a little shorter than the pedicel.

densifolia, N. ( ) densely cespitose, in somewhat globose tufts: leaves closely imbricated, oblong-linear, strongly ciliate, and hirsute with nearly simple hairs:

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(1) Arabis, P.

scapes naked, hirsute: silicle ovate, pubescent; with a style about one third its length: cells mostly 2-seeded. Rocky Mountains.

Southern.

nemoralis, W. (W. y. M.) sparingly branched: radical leaves spatulate-oblong; cauline ones sessile, or clasping, ovate, sub-dentate: silicle pubescent.

ramosissima, Desv. (Ap M. w.) puberulent: stems numerous: leaves linear-lanceolate, remotely and sharply laciniate-toothed: racemes corymbosely paniculate: silicles lanceolate, attenuate at each end, pubescent: style one fourth the length of the silicle. Virginia, Kentucky. Alyssum dentatum in 7th edition.

cuneifolia, N. (w. M. A.) hirsute-pubescent: stem branching below: leaves sparingly toothed; radical ones spatulate-oblong: cauline ones few, oblong-ovate, somewhat attenuate at the base: racemes rather elongated in fruit: silicles oblong-lanceolate, minutely hispid, twice as long as the pedicels: petals emarginate. 3—8 i. Missouri, Arkansas, West Florida.

platycarpa, T. (w.) canescently hirsute with branching hairs: stem branching below, the branches leafy: leaves remotely toothed: radical ones obovate; cauline oblong closely sessile: racemes elongated in fruit: silicles obovate-oblong, minutely hispid, shorter than the pedicels: petals emarginate. 3—8 i. Texas.

brachycarpa, N. (w.) minutely pubescent, simple or branched: radical leaves roundish-ovate, petioled: cauline oblong or linear, minutely toothed or entire: racemes many-flowered, strict, elongated in fruit: siliques oval, glabrous, about the length of the pedicels: cells 5 to 6-seeded: style very short, petals entire.

micrantha, N. (w.) stem leafy and hispid below, naked and smooth above: leaves cuneate-obovate, hispid, entire: silicles linear, minutely hispid, much longer than the pedicels. St. Louis, Arkansas.

verna, L. (w. M. A. ⊙.) scapes naked: leaves lanceolate, somewhat toothed: petals 2-parted: silicles elliptical. Canada to Virginia. Erophila americana and vulgaris, D. C.

Draba, Erophila.

Dracaena, Convallaria.

13—1. Dracoceph′alum. 42. Labi. stom. ton.

virginianum, W. (dragon-head. W. p. An. ♃.) spikes elongated, with the flowers crowded: bracts subulate: teeth of the calyx nearly equal, short: leaves linear-lanceolate, serrate. 1—2 f. S. P. Niagara Falls.

denticulatum, W. (1) (W. p. Jn. ♃.) spikes elongated, with remote flowers: bracts subulate: teeth of the calyx nearly equal: leaves obovate-lanceolate, toothed above. P.

variegatum, Vent. (2) (W. p. J.) spikes short, square: bracts ovate, acuminate, as long as the calyx: teeth of the calyx somewhat unequal: leaves closely sessile, oblong-lanceolate, toothed near the summit. H.

Exotic.

canariense, (balm of gilead herb.) flowers spiked: leaves ternate oblong.

Southern.

cordatum, N. (W. b. J. ♃.) stem and petioles pubescent: leaves cordate, obtusely crenate, somewhat hirsute above: spikes secund: pedicels 2-bracted.

parviflorum, N. (W. w. Jn. ♂.) flowers verticillate, sub-capitate: leaves ovate-lanceolate, deeply serrate, petioled, bracts foliaceous, ovate, ciliate, serrate: serratures mucronate: teeth of the calyx uneqnal, scarcely shorter than the corol.

Dracontium, Ictodes.

5—6. Drose′ra. 68. Dros. acr. ton—.

rotundifolia, (sun-dew. O. y-w. Au. ♃.) scape simple: leaves nearly orbicular, nar

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Dracocephalum. Gr. *drakōn*, a dragon, and *kephalē*, head. A name applied in the same sense as Lamium, Galeopsis.

Drosera. Gr. *drosos*, dew, from the moisture which exudes from the leaves.

(1) Prasium purpureum, Wr. (2) Prasium incarnatum, Wr.

rowed at the base; petioles long, downy. Var. *capillaris*, leaves spatulate. Wet or damp. 4—8 i. *S.* Mch.

longifolia, (1) (W. y-w. Ju. ♃.) sub-cauline, many-leaved: leaves slenderly spatulate (or obovate and long petioled;) petioles naked; peduncle (or scape) naked. Wet. 3—6 i. *S.* T. P. Y. C. B. N. D. Mch.

filiformis, R. (2) (p. J. ♃.) scape sub-ramose, terete, glabrous: leaves very long, filiform: styles 6 to 9. Wet. 1 f. Y. C. B.

linearis, Goldie. (♃.) leaves linear, obtuse: petals very long, naked: having a few-flowered scape: calyx glabrous. Lake Simcoe, in Canada, and Vermont. Doubtful. R. D. Mch.

anglica, Huds. ( ) leaves linear-spatulate, erect; petioles elongated: seeds with an arilliform testa. N. W. Coast.

Southern.

brevifolia, Ph. (w-r. J. ♃.) very small: scape rooting, simple: leaves short, wedge-form, scarcely petioled: petals oval.

5—2. Drummondia. 84. Cist. stom. ton.

mitelloides, Dc. (y. ♃.) leaves radical, petioled, cordate, orbicular, lobed, doubly crenate: scape erect, long, spike racemed. R.

11—12. Dry'as. 92. Rosa. ast. ref. feb.

integrifolia, Vahl. (3) (A. w. Ju. ♃.) small-leaved: leaves ovate, acute, cordate at the base, very entire, flat, white-tomentose beneath: peduncles one-flowered. White Hills.

octopetala, W. (mountain avens. A. w. Ju. ♃.) leaves ovate-oblong, coarsely toothed, rugose, white-tomentose beneath: peduncles one-flowered.

drummondii, Rich. (y.) leaves elliptic, sub-attenuate at the base, crenate-serrate: under side and prominent veins white-tomentose: segments of the calyx ovate. A. R.

3—1. Duli'chium. (4) 9. Cype. far. nut. sug.

spatha'ceum, Rd. (galingale. O. g-y. Ju. ♃.) stem columnar, 3-cornered above: leaves pointing in three directions: spikelets spreading, somewhat 6-flowered, subulate, in axillary racemes. Var. *canadense*, spikelets few, erect, somewhat 10-flowered. 1—2 f. *S.* Mch.

E.

17—5. Echi'nops. 54. Card. sec-stim.

Exotic.

sphærocceph'alus, (globe-thistle.) leaves pinnatifid: stem branching.

18—5. Echi'tes. 47. Apoc. acr. feb. eme. sud.

Southern.

difformis, Wr. (w-y. M. Au. ♃.) climbing: lower leaves nearly linear; upper ones oval-lanceolate, acuminate: raceme corymbed: stamens included. Charleston, S—C. Florida.

Drummondia. In honor of Drummond, an eminent Scotch botanist, who made numerous discoveries in the botany of N. America.

Dryas. Named by Linneus from the Dryodes, sylvan goddesses, to whom the oak *(drus)* was sacred: the leaves resembling those of the oak.

Dulichium. Gr. *du* (*duo*) two, and *lichen*, scab or scale, in allusion to the two-ranked scale-like glumes.

Echinops. Gr. *echinos*, a hedghog, and *opsis*, appearance, alluding to its round, prickly heads.

Echites. Gr. *echis*, a serpent, on account of the twisting form of its shoots. The original plant was a kind of Clematis.

(1) americana, M. (2) tenuifolia, M. (3) tenella, Ph. (4) Schœnus, L. Scirpus, Mx. Cyperus, W.

5—1. Echi′um. 43. Borag. emo. ast.

vulgare, L. (viper's bugloss, blue thistle. b. Ju. ♂.) stem tuberculate-hispid: cauline leaves lanceolate-hispid: spikes lateral: stamens exsert. 2—3 f. *S.* Y. M. P. F. C. B. H. Esopus.

17—2. Eclip′ta. 55. Heli. ton-stim. feb. sud.

Southern.

erecta, W. (w. Ju. ⊙.) erect, dichotomous, strigose: leaves lanceolate, attenuate at the base, rarely serrate: peduncles by pairs, long: involucral leaves ovate, acuminate. Charleston, S. C.

procumbens, Mx. (W. w. J. ⊙?) decumbent or assurgent: leaves long, lanceolate, attenuate at the base, sub-serrate: involucral leaves lanceolately acute: disk florets 4-cleft. 1—3 f. K. Harper's ferry. M. S. C.

brachypoda, Mx. (W. Ju. S.) prostrate, divaricate: leaves lanceolate, sparingly serrulate: peduncles solitary and paired, short: involucral leaves oval-lanceolate: disk florets 5-cleft.

4—1 Elæag′nus. 24. Elae. ton—.

argentea, Ph. (W. J. ♄.) unarmed: leaves undulate, oval-oblong, rather acute, covered with silvery scales: flowers aggregate, (sub-solitary, Ph.) nodding. *S.*

Eleocharia, Scirpus.

17—5. Ele′phanto′pus. 55. Inul. ton. sec-stim.

carolinianus, (1) W. (elephant's foot. W. r. Au. ♃.) radical and cauline leaves oblong, narrowed at the base, pilose on both sides: stem erect, pilose, leafy. 2 f. *S.* P. Charleston, S. C. M.

Southern.

nudicaulis, E. (2) (r. Au. ♃.) radical leaves oval lanceolate, crenate, serrate, subscabrous, hairy beneath: stem hairy, rough, nearly naked. 1—2 f. S. C.

3—2. Eleusi′ne. 10. Gram. far. ton.

indica, Mx. (3) (dog-tail grass. wire grass. W. Ju. ⊙.) spikes straight, erect, in pairs or quarternate: rachis linear: spikelets lanceolate, about 5-flowered: culm compressed, declined. 8—12 i. *S.* Y. P. C. H. M. T. Mch.

Southern.

cruciata, E. (4) (Ju. O. ⊙.) spikes quarternate, expanding, mucronate; spikelets about 3-flowered: exterior glumes awned: outer paleas very acute. 12—18 i.

3—4. Ellim′ia. 64. Rese. ton.

Southern.

ruderalis, N. (⊙. w.) glabrous: leaves linear, crowded, somewhat succulent: flowers in short and slender spikes: seeds black, narrow-reniform. California. 5—6 i.

Eleusine, Oxydenia.

Echium. Gr. *echis*, a serpent, from the seed resembling a viper's head; or, from the spotted stem, not unlike a snake's skin.

Eclipta. Gr. *ekleipō*, to be deficient, alluding to its wingless seed; by which it is distinguished from Verbesina.

Elæagnus. Gr. *eleia*, the olive; the tree having a striking resemblance to the olive tree.

Elephantopus. Gr. *elephas*, elephant, and *pous*, foot; from the form and position of the leaves of one species.

Eleusine. A name of Ceres, who was considered as protecting the cultivation of nutritious grasses.

Ellimia. Gr. *elleimma*, defective, part of the floral organs defective.

(1) scaber, Mx. (2) carolinianus, Var. simplex, N. tomentosus, Ph.?
(3) Cynosurus, L. (4) Chloris mucronata, Mx.

8—1. Elliot'tia. 51. Eric. diu. ast.

Southern.

racemosa, M. (w. J. ♄.) leaves alternate, lanceolate, mucronate, entire, short petioled; pubescent and slightly glaucous beneath: racemes terminal.

5—1. Ellis'ia. 43. Hydr. emo. ton—.

Southern.

nyctelea, L. (1) (W. w. & b. J. ☉.) stem decumbent, branching, leafy, brittle: leaves alternate, petioled, pinnatifid, roughish: flowers solitary. 6—8 i.
ambigua, N. (W. b. M. ☉.) stem decumbent, branching, glabrous, somewhat glaucous: leaves hirsute, lyrate-pinnatifid, sub-sessile: divisions sub-lanceolate, angularly toothed or lobed: racemes lateral and terminal. 4—6 i.

12—5. Elod'ea. 68. Hype. ast.

virginica. N. (Ju—Au. p. ♃.) leaves sessile, clasping: stamens united below the middle. Canada, to Florida and Louisiana. Hypericumvirg. L.
petiolata, Ph. (p. Au. S. ♃.) leaves attenuated into a petiole: filament united above the middle. New Jersey to Arkansas. Hypericum Syn. Wr.

Elodea, Hypericum, Serpicula.

3—2. Ely'mus. 10. Gram. far-ton.

virginicus, L. (wild rye. W. Ju. ♃.) spike erect, compressed: spikelets in pairs, 2—3-flowered: florets smooth: involucral bracts lanceolate, nerved. 3—4 f. S. T. P. C. B. F. N. D. Mch. K. M. S—C.
canadensis, L. (W. Au. ♃.) spike nodding at the extremity, patulous; spikelets 3—5-flowered: florets hairy: involucral bracts awl-subulate. Var. *glaucifolius*. (2) leaves glaucous. Var. *pendulus*, spikes pendant. Is this the philadelphicus, Ph? 3—4 f. S. T. C. N. Mch.
villosus, M. (lime grass. W. Ju. ♃.) spike a little nodding at the extremity, patulous: rachis and florets hispid, pilose: spikelets geminate, 2—3-flowered: bracts linear, pilose-ciliate, 2-nerved, shorter than the florets. 2—3 f. T. C. O. F. N. M. Mch.
hystrix, L. (hedgehog grass. W. Ju. ♃.) spike erect: spikelets diverging: involucre 0. 3 f. T. C. O. N. B. P. M. Mch.
striatus, W. (W. Ju. ♃.) spike erect: spikelets 2-flowered, awned, hispid, in pairs: bracts linear, nerved, awned, rather exceeding the spikelets: leaves and sheaths glabrous. 3—4 f. S. B. D.

Southern.

europeus, L. (Ju. ♃.) spike erect: spikelets 2-flowered, awned, as long as the smooth involucre.

2—1. Elytra'ria. 39. Acan. emo-aro. ton.

Southern.

virgata, Mx. (J. ♃.) leaves entire near the summit and with the nerves underneath somewhat smooth: scales under the flower ovate, villous along the margin. 12—18 i.

20—3. Empe'trum. 96. Empe. ton—.

nigrum, Mx. (black crowberry. A. ♄.) procumbent: branchlets glabrous: leaves imbricate, oblong, glabrous, with a revolute margin. Whitehills. D.

Elliottia. In honor of Stephen Elliott, author of a "Sketch of the Botany of S. Carolina and Georgia."
Ellisia. In honor of John Ellis, author of several botanical dissertations.
Elymus. Gr. *eluo*, to fold up, alluding to the sheath which incloses the ear, in some of the original species.
Elytraria. Gr. *elutron*, a scale, having reference to the scaly sheaths of its stem.
Empetrum. Gr. *en*, in, and *petron*, a stone, referring to its habitation.
(1) Polemonium, L. (2) philadelphicus, Sw.

conradii, T. (♄.) stem erect, branching: leaves with revolute edges meeting back on the midrib. 8 i. Pine barrens, N. Jersey. Exhibited before N. Y. Lyceum, by Dr. Torrey, Nov. 1835. I have not seen his written description.

12—2.—5. Ene'mion. Raf. 61. erhe. sud. poi. dra-cat.

biternatum, (W. ♃.) leaves ternate. Probably the species of an old genus. Lexington, Kentucky.

18—5. Enslen'ia. 47. Ascl. acr. stim.

Southern.

al'bida, N. (W. Ju. y-w. ♃.) twining: stem marked with an alternating pubescent line: leaves opposite, smooth, cordate-ovate, somewhat acuminate, sinuate at the base: corymbs axillary, many-flowered, long peduncled: pedicels and calyx pubescent.

18—1. Epiden'drum. 21. Orch. g-r. bit. d-r. sto.

Southern.

conopseum, Ai. (y. Au.) stem simple: leaves lanceolate, rigid, lucid, perennial: spikes erect: lamina of the lip 3-lobed; middle one retuse: inner petals narrow. Parasitic.

10—1. Epigae'a. 51. Eric. diu. ast.

repens, L. (trailing arbutus. W. r. & w. Ap. ♄.) stem creeping: branches and petioles very hirsute: leaves cordate-ovate, entire: corol cylindric. T. C. F. P. V.

Epifagas, Epiphegus.

8—1. Epilobium. 88. Onag. emo.

spicatum, Lk. (1) (willow herb. O. p. Ju. ♃.) leaves scattered, lance-linear, veiny, glabrous: flowers unequal bracted: stamens declined. 4—6 f. Mch.

opacum, Lehm. (♃.) stem erect, pubescent: leaves sub-sessile, narrow-lanceolate, sub-entire, opakely veined: flowers axillary, solitary, peduncled; style reflexed, glabrous, shorter than the stamens. 12—18 i. R. A.

latifolium, L. (p. Ju. ♃.) leaves alternate, lance-ovate, nearly entire, pubescent, without veins: flowers unequal. Var. *tetrapetalum*, leaves narrow, lanceolate, entire: stem low. R.

coloratum, M. (2) (O. r-p. Ju. ♃.) stem terete, pubescent, leaves lanceolate, serrulate, petioled, opposite: upper ones alternate, glabrous, red veined. Var. *tetragonum*, has the stem 4-cornered part of its length. 3—4 f. S. Mch.

lineare,[*] M. (3) (w. & r. Ju. ♃.) stem terete, pubescent, wand-like, branched above: cauline leaves opposite, branch-leaves alternate, linear, very entire: flowers few, terminal, long peduncled. 1—2 f. Mch.

molle, T. (W. w-p. Au. ♃.) densely and softly pubescent: stem terete: leaves oblong-linear, sessile, very entire; lower ones opposite, upper ones alternate: flowers pedicelled, sub-terminal, regular. 12—18 i. F. N. Mch.

palustre, W. (marsh willow-herb. O. p. Ju. ♃.) stem terete: leaves sessile, lanceolate, sub-denticulate: stigma undivided. Damp. S. W. P. N.

alpi'num, L. (A. w-r. Au. ♃.) stem simple, sub-terete, 1 or 2-flowered: leaves opposite, oval, entire: flowers sessile. 1—3 i. Whitehills.

origanifolium, Lk. (r. w.) stem creeping at the base, somewhat glabrous, nodding at

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Enemion. Probably the name of an obsolete genus.

Enslenia. In honor of A. Enslen, a researcher in American botany.

Epidendrum. Gr. *epi*, upon, and *dendron*, a tree, alluding to its parasitical growth.

Epigæa. Gr. *epi*, upon, and *gē*, the earth, the stem growing flat upon the ground.

Epilobium. Gr. *epi*, upon, and *lobos*, a pod; the flowers growing upon the end of a pod-like capsule.

(1) angustifolium, W. (2) lævigatum, Le Conte. (3) oliganthum, Mx. rosmarinifolium, Ph. squamatum, N.

[*] This and the two following species are probably synonyms of the same plant. Aikin.

the apex: leaves sub-petioled, ovate, denticulate, upper ones acuminate: stigma undivided, clavate: capsules peduncled, glabrous. 6—12 i. R.

glandulosum, Lehm. (w.) stem simple, creeping at the base, angled, glabrous: leaves sessile, lance-ovate, sub-decurrent, acute, glandulous-denticulate: flowers erect: stigma clavate: capsules sessile, angled, very slenderly pubescent. A. R.

tetragonum, L. (   ) stem 4-cornered, erect, branching: leaves lance-oblong, serrulate, decurrent: flowers erect: stigma clavate: capsules short pedicelled, finely pubescent. R. A. Canada.

minutum, Doug. (r. ☼.) stem sub-erect, terete, finely pubescent, branching: leaves alternate, lance-oval, obtuse, sub-entire, pellucid-punctate: flowers nodding, minute: stigma clavate: capsules short pedicelled, reflex-curved, somewhat glabrous. R. A.

luteum, Ph. (W. y. ♃.) stem 4-cornered, somewhat glabrous: leaves opposite; upper ones alternate, lanceolate, acuminate, serrulate: peduncles axillary, alternate, elongated: divisions of the calyx narrow, as long as the petals: style exsert; stigma thick, 4-lobed.

densum, R. (   ) hairy: leaves near each other, scattered, sessile, lance-linear, nearly obtuse, nerved: panicles peduncled: bracts oblong.

leptophyllum, R. (   ) stem branching, sub-scabrous: leaves alternate, sub-sessile, linear narrow, entire, glabrous, 1-nerved, acute, narrowed at the base: flowers axillary, solitary, peduncled. Dense woods in Penn. and Md.

divaricatum, R. (   ) stem branching, glabrous: branches spreading: leaves opposite, petioled: petals lanceolate, acute, glabrous, unequally toothed.

tenellum, R. (   ) stem filiform, sub-simple: leaves opposite, glabrous, sessile, narrow-linear, entire, acute, 1-nerved: flowers few, terminal, peduncled. Penn.

Epipactis, LISTERA.

12—2. EPIPHE'GUS, N. (1) 36. Orob. ast.

virginianus, (2) (beech drops, cancer-root. O. y. p. Ju. ♃.) stem very branching: flowers alternate, distant: calyx short, cup-form, shorter than the capsule. The whole plant is yellowish-white, or brown, and of a naked appearance. 8—12 i. *S.* Astringent. Bw. Mch.

Epimedium, CAULOPHYLLUM.

21—1. EQUISE'TUM. 5. Fili. sec-stim.

arvense, L. (horse-tail. O. Ap. ♃.) barren stems with simple branches: the branches scabrous, 4-sided: fructification simple: sheaths cylindric, gash-toothed; teeth acute. 8 i. *S.*

hyema'le, L. (scouring rush. W. Ju. ♃.) stem erect, very scabrous, bearing spikes at the apex: sheaths 2-colored, withering at the base and apex: teeth with caducous awns. 2—3 f. *S.* T. C. B. O. V.

sylvaticum, L. (W. Ap. ♃.) barren and fertile stems doubly-branched: branches scabrous, deflected, 4-sided; branchlets somewhat 3-sided. *S.* T.

limosum, T. (W. Ju.) stems branched upwards, with the branches about 12 in a whorl, simple, pentagonal, smooth. 2—4 f.

scirpoides, Mx. (O. Ju. ♃.) stem simple, ascending, glabrous, filiform, bearing a spike at the top: sheaths 3-toothed; teeth withering, with caducous awns at the apex. 3—6 i.

uligino'sum, M. (♃.) stem erect, round, furrowed, nearly smooth, somewhat branched: branches from the middle joints unequal: sheaths serrate above; teeth even, acute, black. P. Y. W. C. B.

palustre, W. (W. J. ♃.) stem simply ramose, glabrous, sulcate; branches pentagonal, bearing spikes at their apexes. Y. C.

torreyanum, Stewart. (♃.) stems branched: branches thick, roughish, hexagonal, close-pressed to the stem: spike terminal. Perhaps not a distinct species. Y.

Epiphegus. Gr. *epi*, upon, and *phēgas*, the beech, it being parasitical on that tree.

Equisetum. Lat. *equus*, a horse, and *seta*, hair, alluding to the fine branches of all the species: or its general resemblance to the tail of a horse.

(1) Orobanche, L. (2) americanus, N.

2—2. **Erian'thus.** 10. Gram. far. ton. sug—.

Southern.

alopecuroides, L. (1) (p. S. ♃.) hair-like involucre much longer than the glumes: awns straight. 6—10 f.

brevibarbis, Mx. (p. S. ♃.) panicle somewhat spreading: hair-like involucre shorter than the glumes: awns straight. 3—5 f.

strictus, Bald. (p. Au.) involucre very short, or none: panicle closely appressed: branches remote: peduncles 2-flowered: awns straight, twice as long as the glumes. 4—6 f.

contortus, Bald. (Oc. ♃.) hairy involucre as long as the glume; inner valve of the paleas eared: awns spirally twisted.

8—1. **Eri ca.** 51. Eric. diu. ast.

Exotic.

pubescens, (downy heath. r. M.) corol linear, pubescent, with the limb erect: capsule glabrous: leaves fringed.

tetralix, (♄.) anthers awned: corol ovate: style enclosed: leaves in fours, ciliate: flowers in heads.

Erigenia, Hydrocotyle.

17—2. **Eri'geron.** 55. Aste. ton. sec-stim. feb. sud.

alpinum, W. (p. Ju. ♃.) villose: stem generally 1-flowered: involucre villose: rays spreading: leaves lanceolate, obtusish. 2 i.

bellidifolium, W. (2) (robert's plantain. O. b. & w. M. ♃.) hirsute, hoary: radical and lower cauline leaves obovate, sub-serrate; upper ones few, distant, lanceolate, sessile, entire: stem 3—8-flowered: rays long. 12—18 i. *S.* Mch.

purpureum, W. (O. p. Ju. ♃.) pubescent: leaves oblong, toothed, clasping; upper ones entire: peduncles thickened, corymbed; lower ones elongated: scales of the involucre hairy on the keel: rays twice as long as the involucre. 2 f. *S.*

compositum, Ph. (W. w-r. Ju. ♃.) pilose, somewhat stemless: radical leaves long-petioled, thrice 3-parted; divisions linear, divaricate; cauline leaves linear, generally undivided: stem naked above: 1-flowered. 8 i.

philadelphicum, W. (O. b-p. Au. ♃.) pubescent: leaves wedge-oblong, rarely gash-toothed; cauline ones half-clasping: stem weak, simple, corymbed above: peduncles elongated, 1-flowered: rays capillary, twice as long as the hemispherical involucre. 1—3 f. *S.* Mch.

strigosum, W. (O. w. Ju. ♂.) strigose-pilose: leaves lanceolate, tapering to both ends; in the middle are a few coarse teeth, or often entire: flowers corymbed-panicled. 2—3 f. *S.* Mch.

heterophyllum, L. (3) (W. w. J. ♂.) radical leaves round-ovate, deeply toothed, petioled; cauline ones lanceolate, acute, serrate in the middle: corymb terminal. 2—3 f. C. N. D. Mch.

nervosum, W. (4) (y. w. Ju. ♃?) white pubescent: leaves lance-linear, very entire, silky, nerved: flowers panicled.

hys'sopifo'lium, Mx. (y. Ju. ♃.) stem panicled, with sterile branches, a few of them protracted into naked peduncles: leaves linear, glabrous, ciliate: rays much longer than the cylindric involucre.

canadense, (L. colt's tail, flea-bane, pride-weed. O. w. Ju. ☉.) stem hispid, panicled: leaves lance-linear, ciliate: involucre cylindric: rays crowded, short. Var. *grandiflorum*, rays yellowish, flowers very large, short peduncled, crowded, terminal and axillary. Var. *pusillum*, low, smoothish: leaves lance-linear, entire, scabrous along the margin. This last variety is made a distinct species by Mr. Nuttall. 4 i. —3 f. *S.* Mch.

Erianthus. Gr. *erion*, wool, and *anthos*, flower, referring to the hairy involucre.

Erica. Gr. *ereikō*, to break, in allusion to the brittle branches of the plant.

Erigeron. Gr. *ēr*, the spring, and *gerōn*, an old man; because some species become old in the beginning of the season.

(1) saccharoides, Mx. Anthoxanthum giganteum, Wr. Andropogon, L. Saccharum giganteum, Ph. (2) pulchellum, Mx. (3) Aster annuus, L. (4) strigosum? E.

Southern.

pumilum, N. (1) (W. w. ♃.) hirsute: stem simple. 1-flowered: leaves linear, entire, sessile, without nerves: involucre hirsute. 4—5 i.

nudicaule, Mx. (w. y. J. ♃.) glabrous: radical leaves lance-spatulate, acute, slightly toothed: stem simple, nearly leafless, long: terminal corymb few-flowered: rays as long as the involucre. 2 f.

quercifolium, Lk. (b. w. Ju. ♃.) finely pubescent: leaves lanceolate, acute; radical ones somewhat lyrate, coarsely toothed; upper ones entire: stem sub-simple, few-flowered (3) at the summit: rays twice as long as the involucre. Elliott thinks this and the philadelphicum may be the same. 8—10 i.

longifolium, Lk. (y. Au.) very glabrous: stem virgately panicled; branches straight: leaves very long-linear, straight: involucre ovate: rays scarcely longer than the involucre. Does it belong to this genus? E.

ambiguum, N. (w-y.) pubescent, somewhat scabrous: leaves linear; lower ones slightly serrulate: flowers small, generally in pairs, axillary and terminal: involucre hemispherical. 18 i.

asperum, N. (W. w. Au.) hirsute-scabrous: stem slender, about 2-flowered, leaves lanceolate, acute, entire: involucre hemispherical. 12 i.

glabellum, N. (W. w-b. Au. ♃.) leaves lance-linear, smooth, acute; radical ones long-petioled, lance-spatulate, nerved: stem pubescent above, 3—5-flowered: involucre pubescent. 12—18 i.

divaricatum, Mx. (W. Au. ☉.) decumbent, divaricate-branching: panicles sub-fastigiate: leaves subulate: florets of the disk 4-cleft.

19—4. ERIOCAU'LON. 13. Junc. ton.

pellu'cidum, Mx. (pipe-wort. W. g. Au. ♃.) scape very slender. about 7-striped: leaves linear-subulate, channelled, glabrous, pellucid, 5-nerved, reticulate: head small, globose: scales of the involucre oval-obtuse. Grows in water. 6—12 i. D. T. C. M. Mch.

decangulare, Mx. (2) (tall pipe-wort. w. S. ♃.) scape 10-striped: leaves ensiform, glabrous: heads large, depressed-globose: scales of the involucre ovate, acute: chaff of the receptacle mucronate. 3—4 f. S. P. Y. S—C.

flavidulum, Mx. (Ju. ☉. or ♃.) scapes numerous. about 7-furrowed, sub-pubescent: leaves short, subulate-ensiform: head convex: scales of the involucre roundish. 2—4 i. S.

gnaph'aloides, Mx. (3) (Ju. ♃.) scape sub-compressed, with 10 grooves: leaves short, subulate, ensiform, glabrous: heads hemispheric-convex: the involucre consists of shining scarious, oval, round-obtuse scales. 10—14 i. S. Sheffield, Mass. S—C.

Southern.

villosum, Mx. (M. S. ♃.) scapes numerous, compressed, about 4-furrowed, villous: leaves short, subulate, linear, hairy: head small, spherical: corol nearly black. 12 i. Charleston, S. C.

3—1. ERIOCO'MA. 10. Gram. far. ton.

Southern.

membranacea, Ph. (4) (W.) leaves convolute-filiform, glabrous: panicle lax: pedicels flexuose: glumes membranaceous, 3-nerved, long acuminate: paleas shorter than the glumes, silky-villose, hairs exceeding the paleas: awn naked, straight, a little longer than the glumes.

9—2. ERIGO'NUM. 28. Poly. cat. coo. lax.

parvifolium, S. (W.) calyx naked: cauline leaves petioled, alternate, ovate, revolute, shining above, rusty tomentose beneath.

Eriocaulon. Gr. *erion*, wool, and *kaulos*, a stem; in allusion to the velvety stem of some species.

Eriocoma. Gr. *erion*, wool, and *komē*, a lock of hair; from the hairy corol.

Erigonum. Gr. *erion*, wool, and *gonu*, the knee, the stem of this plant being woolly at the joints.

(1) uniflorum, W.? hirsutum, Ph. (2) serotinum, Wr. (3) decangulare, Wr. compressum, Lk. (4) cuspidatum, N. Stipa, Ph.

latifolium, S. (W.) calyx naked: cauline leaves alternate, petioled, cordate, undulate, white downy above, white-woolly beneath; petioles clasping.

tenellum, T. & J. (W. ♃.) stem dichotomous, naked, slender, very glabrous: branches elongated, bearing fascicles of flowers at their extremities: flowers very minute: divisions of the calyx roundish, obtuse, glabrous: leaves ovate, sub-cordate, white-downy beneath, (both sides when young) pubescent above. 12. i.

umbellatum, T. & J. (W. ♃.) stem naked, simple: peduncles elongated, (about in sixes) umbelled, bearing a single involucre at the apex: calyx glabrous: divisions obovate narrow at the base, obtuse: leaves obovate-spatulate, woolly beneath, somewhat glabrous above. 8 i.

Southern.

tomentosum, Mx. (Ju. ♃.) leaves oval, wedge-form at the base, glabrous above, white-downy beneath; cauline leaves in threes and fours: fascicles of flowers axillary solitary, sessile. 2 f. Charleston, S—C. Florida.

sericeum, Ph. (1) W. y. Ju. ♃.) stem simple. naked: flowers fascicled, in terminal umbels, peduncled: umbel involucred: divisions of the calyx oblong, acute, silky-lanate: radical leaves petioled, lance-oblong, villose above.

pauciflorum, Ph. (W. w. ♃.) stem simple. leafy at the base: umbel few-flowered: flowers sub-sessile: leaves lance-linear, hoary-tomentose on both sides.

3—1. Erioph'orum. 9. Cype. far. nut. sug.

1. *Spike solitary.*

alpinum, L. (2) (Au. ♃.) culm triquetrous, somewhat scabrous, naked: leaves very short, subulate: spike oblong: woolly hairs crisped, few. 8—10 i. Whitehills. D.

virginatum, L. (3) (Ju. ♃.) culm terete below, obtusely-triangular above, smooth and rigid; sheaths inflated: spike oblong-ovate: glumes scarious: wool straight, dense. 12 i. N. V. T.

2. *Spikes numerous.*

polysta'chyon, L. (4) (cotton grass. W. Ju. ♃.) leaves flat, triquetrous at the extremities: culm nearly terete: spikes nodding: peduncles scabrous. 18—24 i. Y. V. F. P. O. C. B. N. D.

virginicum, L. (moss-crop. J. ♃.) culm nearly terete below, obtusely triangular above: leaves flat, very long: spikes clustered, erect, sub-sessile: involucre 2—3-leaved. Var. *gracile*, culm very slender, leaves almost filiform. 2—4 f. S. B. N. W. C. Y. T. P. D.

angustifolium, Roth. (J. ♃.) culm somewhat triangular: leaves channelled, triquetrous: peduncles very smooth. Var. *megastachyon*, culm somewhat triangular, short: involucre longer than the umbel: spikes peduncled, very large. Dr. Torrey thinks the E. *angustifolium*, of Willd: is not found in this country, and the one so called by authors is a variety of the E. *polystachyon*. C. T. B.

15—5. Ero'dium. 73. Geran. ast. aro.

cicutarium, W. (hemlock geranium. W. Ap. p. ☉.) stem prostrate or diffused, rough-haired: leaves gash-pinnate; segments sessile, gash-pinnatifid: peduncles double, many-flowered: petals unequal. Var. *bipinnatum*, W. caulescent, diffuse: segments pinnatifid, with linear lobes. 6 i.

Exotic.

ciconium, (stork-bill geranium. ☉.) peduncles many-flowered: leaves pinnate; leafets pinnatifid, toothed: petals oblong, obtuse: stem ascending.

Eriophorum. Gr. *erion*, wool, and *phero*, to bear, because the seeds are covered with a long down.

Erodium. Gr. *erodios*, a heron, because the fruit resembles the head and beak of that bird.

(1) flavum, N. (2) hudsonianum, Mx. Trichophorum, Ph. (3) cespitosum, Ph. (4) tenellum, N. angustifolium, Bw?

moschatum, (musk geranium. ☉.) peduncles many-flowered: leaves pinnate; leafets sub-petioled, oblong, gash-toothed: petals equalling the calyx: stem procumbent.

16—10. Ervum. 93. Legu. asc. ton—.

hirsutnm, W. (1) (creeping vetch. L. p. J. ☉.) peduncles many-flowered; legumes hirsute, 2-seeded: leafets linear, cruncate. C. Y.

Ervum, Vicia.

5—2. Eryn'gium. 60. Umbe. stom. or nar. if nau.

aquaticum, Ju. (2) (button snake root. W. w-b. Ju. ♃.) leaves ensiform, fringed with soft spines; floral leaves undivided, very short. 3—4 f. *S.* P. S—C. K. Mch.

virginianum, Lk. (3) (g. & b. Ju. ♃.) very tall: leaves long-lanceolate, serrate: involucre much longer than the heads: chaff 3-cuspidate. 4—6 f. *S.* P. Y. C.

ovalifolium, Mx. (4) (sea-holly. W. L. b. Ju. ♃.) leaves spatulate-ovate, irregularly toothed: heads shorter than the involucre; chaff equally 3-cuspidate. 2—3 f. *S.* P. Y. S—C.

diffusum, T. & J. (W. w? ☉.) stem dichotomous-branched, diffuse: leaves all digitate-palmate; divisions oblong, gash-serrate, spinous: little heads sub-globose: leafets of the involucre 4 to 6, 3-cleft, gash-serrate, longer than the heads: germ squamose. 6—8 i. R.

petiolatum, H. ( ) stem dichotomous above: leaves with parallel nerves, lanceolate, attenuated into a long petiole, remotely ciliate-spinose: upper ones narrow, sessile; leafets and chaffs of the involucre subulate, ciliate-spinose, rigid, twice as long as the little globose head. R.

americanum, Wr. ( ) leaves entire; radical ones roundish; cauline ones lance-ovate, trifid at the summit: stem procumbent. Carolina.

Southern.

fœ'tidum, W. (Ju. ♃.) radical leaves lanceolate, serrate; floral leaves many-cleft: stem dichotomous. 1 f.

aromat'icum, Bald. (S. Oc. ♃.) stem leafy: leaves cuspidate, pinnate, 3-cleft at the summit, cartilaginous along the margins: involucre 5-leaved; leaves 3-cleft: chaff 3-pointed. 9—10 i.

gracile, Bald. (Ju. ☉.) leaves petioled, oval, entire: stem branching, slender: heads numerous, very small: involucre 2-leaved, 3-cleft, linear. K.

plukentei, E. (w-b. J.) leaves long, linear-lanceolate, serrate: involucre 8-leaved, longer than the head; leafets dissected: chaff 3-awned. 2 f.

prostratum, N. (W. ♃.) surculus creeping, filiform: leaves petioled, ovate, not prickly, membranaceous—some entire and others having teeth and lobes increasing from the base: little heads axillary, peduncled, ovate: leaves of the involucre 5, oblong-linear, entire, deflexed: chaffs linear, small, sometimes none: calyx papillose with vesicles. Arkansas.

baldwini, Sr. (W.) leaves petioled, oval: stem very branching, slender, often prostrate: little heads numerous, minute: leafets of the involucre twice 3-parted; lobes linear, somewhat toothed at the base. Florida.

14—2. Ery'simum. (5) 63. Cruc. asc. ase.

lanceolatum, Hk. (W.) pubescence two-parted, close-pressed, every where rough and white: stem sub-simple: leaves lance-linear, lower ones mostly toothed: claw longer than the calyx: pod long, erect: stigma emarginate. Canada.

elatum, N. (y. ♂.) somewhat scabrous: the hairs on the stem fixed by the middle, on the leaves 3 to 4-parted: stem tall and simple: radical leaves usually runcinate; cauline lanceolate, remotely denticulate, attenuated at each extremity. Oregon. 3—5 f.

Ervum. Lat. *ervum*, from *eruo*, to pluck out, because it was troublesome in fields.

Eryngium. Gr. *ēruggion*, the name of a prickly plant, which Dioscorides declares to be a specific against flatulence, from *ereugo*, to eruct.

Erysimum. Obscure: it is said to be from Gr. *eruō*, to draw, because it makes blisters, and is a cure for the sore throat.

(1) Vicia mitchella, R. (2) yuccifolium, Mx. (3) aquaticum, Mx. (4) virgatum, Lk. integrifolium, Wr. (5) Sisymbrium of Authors.

parviflorum, N. (y. ♂ or ♃.) canescent and scabrous: stem low and simple: leaves all linear or somewhat lanceolate, almost wholly entire: siliques erect: petals scarcely longer than the calyx. 2—4 i. Rocky Mts.

pumilum, N. (y. ☉.) somewhat scabrous: leaves linear, all entire: siliques flatly 4-sided, very long erect: pedicels very short: stigma small, nearly entire: petals longer than the calyx. 2—4 i. Rocky Mts.

Southern.

cheiranthoides, (g.) leaves lanceolate, sub-dentate, somewhat scabrous, green: siliques erect, spreading, twice as long as the pedicels; stigma small, sub-sessile. Flowers small. Virginia, Louisiana. D.

asperum, (W.) leaves linear-oblong; lower ones tooth-runcinate, all scabrous pubescent: siliques spreading: style short and thick. Missouri.

arkansanum, N. (y. ♂.) slightly roughened with appressed hairs, which on the stem are fixed by the middle, and on the leaves 3-parted: stem simple: leaves oblong-lanceolate, runcinately and sinuately toothed, attenuate at the base: siliques elongated, nearly erect, tapering at the summit: stigma 2-lobed. 1½—3 f. Arkansas, Texas.

grandiflorum, N. (y. March.) dwarfish, slightly roughened, with appressed, forked, or stellate hairs: leaves oblong-spatulate, obtuse, entire or somewhat angularly lobed towards the base: petioles long and slender: flowers in capitate corymbs: siliques very long, somewhat torulose: stigma conspicuously 2-lobed. 3—6 i. Upper California.

Erysimum, Sisymbrium, Barbarea.

16—10. Erythri'na. 93. Legu. asc. ape.

Exotic.

crista-galli, (coxcomb evergreen. r. M. ♄.) leaves ternate: petioles prickly, glandular: stem unarmed.

Southern.

herbacea, W. (r. M. ♃.) small: leaves ternate; leafets rhomboidal, glabrous: spikes very long: stem herbaceous: prickly. 2—4 f. Florida. S—C.

6—1. Erythro'nium. 14. Lili. g-r. exp. sti.

americanum, S. (1) (dog-tooth violet, adder's tongue. O. y. Ap. ♃.) leaves lance-oval, maculate: petals oblong-lanceolate, obtuse at the point: inner ones 2-dentate near the base: style clavate; stigma 3-lobed. (Stigmas 3, Elliott.) 6—8 i. *S.* Mch.

albidum, N. (W. b-w. Ap. ♃.) leaves elliptical-lanceolate, not punctate: petals linear-lanceolate, obtuse; inner ones without dentures, sub-unguiculate: style filiform: stigma 3-cleft, lobes reflexed. 6—8 i. *S.* K. Near Albany. Rare.

bracteatum, Boott. (A. y. J. ♃.) scape bracted, shorter than the leaves: leaves lanceolate, very unequal: style clavate: stigmas united? Vermont.

grandiflorum, Ph. (W. w-y. J. ♃.) petals lanceolate, sub-unguiculate, acute: germ oblong: leaves linear-lanceolate. A species not satisfactorily defined. N.

Erythrorhiza, Galax.

Eschscholtzia, Chryseis.

17—2. Espele'tia. 55. Inul. ton. sec-sti.

amplexicaulis, N. (y. ♃.) glabrous, shining: radical leaves very long, lanceolate; cauline ones clasping, sub-lance-ovate, acute: stem somewhat 3-flowered: akenes elliptic, compressed. R.

helianthoides, N. (♃.) villose: radical leaves very long, petioled, heart-hastate, oblong, acute; cauline leaves lanceolate, long, petioled: stem somewhat 1-flowered: leafets of the involucre smallish, lanceolate, acuminate. R.

Erythrina. Gr. *eruthros*, red, from its scarlet flowers.
Erythronium. Gr. *eruthros*, red, in allusion to the color of the flower and leaves.
Espeletia. Gr. *esper*, evening, *leitos*, common.—Sed quere.

(1) lanceolatum, Ph. longifolium, Pt. dens-canis, W.

13—2. Euchro'ma. 36. Rhin. aro. ton. sti.

coccin'ea, W. (painted cup. W. y. & r. J. ♂.) leaves alternate, linear, gash-pinnatifid; divisions linear: bracts dilated, generally 3-cleft, longer than the flowers: calyx 2-cleft; divisions retuse, emarginate. Flowers yellow, with scarlet bracts. One variety, *pallens*, has yellow bracts. 10—16 i. *S.* O. C. M. F. B. N. D.

Southern.

grandiflora, N. (W. g-w. M. ♃.) leaves and bracts mostly 3-cleft; segments divaricate: calyx 4-cleft, partly oblique: corol longer than the calyx: divisions of the lower lip acuminate. Bracts not colored.

5—2. Eulo'phus. 60. Umbe. stom. or nar. if nau.

ambiguus, N. (y. ♃.) glabrous, branching: leaves somewhat gash-biternate: lobes narrow-linear; petioles becoming tumid sheaths at the base: little umbels crowded: general and partial involucres wanting: root tuberous. R.

triternatus, N. (y. ♃.) finely pubescent: stemless: leaves gash-biternate, with the partitions sub-divided in the middle: divisions narrow-linear, long, acute: petioles becoming narrow sheaths: little umbels crowded: involucres many-leaved, narrow. R. Seseli triternatum? Ph.

Southern.

americanus, Nut. (W.) root tuberous, oblong, fasciculate: stem terete, fistulous. Arkansas.

5—1. Euon'ymus. 95. Celas. cat.

atropurpu'reus, Ju. (spindle tree. W. p. J. ♄.) leaves petioled, lance-oblong, acuminate, serrate: peduncles divaricate, many-flowered; flowers 4-cleft: fruit smooth, red. 4—5 f. *S.* P. Y. R. M. D. Mch.

americanus, W. (burning bush. W. r-y. J. ♄.) branches 4-angled, smooth: leaves sub-sessile, lance-oval, acute, serrate: peduncles about 3-flowered; flowers all 5-cleft: fruit warty-muricate, red. Var. *sarmentosus*, N. stem sarmentose, often rooting, acutely 4-angled: leaves sub-sessile, opake, lance-oval, acute, obtusely serrate; serratures generally undulate. 3—4 f. *S.* Y. P. D. M. Mch.

Southern.

angustifolius, Lyon. (Ju. ♄.) branches 4-angled: leaves long-linear-elliptic, somewhat ensiform, nearly entire: peduncles about 1-flowered; flowers all 5-cleft: fruit roughened, warty. A doubtful species. Elliott.

17—1. Eupato'rium. 55. Eupa. ton. sec-stim. feb.

1. *Involucres not more than 5-flowered.*

hyssopifolium, L. (hyssop thorough-wort, hemp-weed, w. Au. ♃.) stem erect: lowest leaves opposite, lance-linear, sub-dentate: corymb sub-fastigiate: style much longer than the corol. 2 f. *S.* C. S—C.

linearifolium, Wr. (w. S.) stem sub-procumbent, villose towards the summit: cauline leaves opposite, lance-linear, rarely dentate, sometimes clustered: style as long as the corol. 1—2 f. *S.*

sessilifolium, W. (W. w. Au. ♃.) leaves sessile, clasping, distinct, lance-ovate, rounded at the base, serrate, very glabrous: stem somewhat glabrous. 2 f. *S.* P. Y. F. N. T. M. Mch.

truncatum, W. (w. Ju. ♃.) leaves sessile, clasping, distinct, lanceolate, truncate at the base, serrate, somewhat glabrous: stem pubescent. *S.* P.

Euchroma. Gr. *eu*, beautiful, *chroma*, color; alluding to the scarlet bracts.

Eulophus. Gr. *eulophos*, crested; from the appearance of the seed.

Euonymus. Gr. *eu*, good, *nomos*, name; probably a favorite remedy, deserving a good name.

Eupatorium. Dedicated to Eupator or Mithridates, King of Pontus; who first used it as a counter poison.

album, L. (Au. ♃.) leaves sub-sessile, lance-oblong, roughish, serrate: inner scales of the involucre long, lanceolate, scarious, colored. 18—24 i. *S.* P. S—C. K.

lanceolatum, W. (Au. ♃.) leaves sessile, distinct, lance-oblong, scabrous, deeply serrate at the base: scales of the involucre 1-colored. *S.* P.

verbenaefolium, Mx. (1) (w. Au. ♃.) leaves sessile, distinct; lance-ovate, rugose, scabrous; upper ones with coarse teeth at the base, and with the summit entire: 2 f. *S.* P. Y. W. C. B. M. H. N.

melissioides; W. (w. Au. ♃.) leaves petioled, ovate, obtusish, obtusely serrate; veiny, somewhat glabrous. 1—2 f. P.

rotundifolium, W. (w. Au. ♃.) leaves sessile, distinct, deltoid, roundish, somewhat glaucous, obtusely-serrate, veiny: scales of the involucre acuminate. 12—18 i. *S.* P. S—C.

pubescens, W. (2) (w. Au. ♃.) leaves sessile, distinct, ovate, sub-scabrous, veiny; lower ones doubly serrate, upper ones sub-serrate: stem panicled, pubescent; branches fastigiate. 18—24 i. *S.* Y. P. B. N.

altissimum, W. (W. w. Au. ♃.) leaves sub-sessile, lanceolate, 3-nerved, tapering to both ends, pubescent; lower ones serrate in the middle. 3—7 f. *S.* P. F.

amoenum, Ph. (A. p. S. ♃.) leaves with short petioles, opposite and in threes, lance-oblong, acute at both ends, serrate, sub-glabrous, sub-rugose, net veined beneath: corymb fastigate, crowded: scales of the involucre oblong, colored, acutish. 2 f. Y.

trifoliatum, W. (3) (p. Au. ♃.) leaves petioled, in threes or fours, ovate, and oval, acuminate, serrate, pubescent beneath, punctate. 3—4 f. *S.* C. Y. N. F. P.

2. *Involucre more than 5-flowered.*

ceanothifolium, W. (Au. ♃.) leaves petioled, ovate, acuminate, toothed, 3-nerved, somewhat glabrous: involucre 5—10 flowered. 2 f. *S.* K.

purpureum, L. (trumpet weed, purple thorough-wort, joe-pye. O. p. Au. ♃.) leaves in fours or fives, petioled, lance-ovate, serrate, rugose-veined, roughish: stem hollow. Var. *laevigatum*, involucre about 5-flowered: leaves in fives, petioled, lanceolate, very glabrous both sides, slender: stem hollow, smooth, sub-glaucous. 4—6 f. *S.* Mch.

maculatum, W. (W. p. Au. ♃.) leaves in fours or fives, lance-ovate, unequally serrate, pubescent beneath: stem solid, furrowed. 4—5 f. *S.* P. Y. W. C. N.

verticillatum, W. (4) (joe-pye's weed. W. p. Au. ♃.) leaves petioled, in threes or fours, lance-ovate, acuminate at each end, unequally serrate, somewhat glabrous: stem solid, smooth. 6—7 f. *S.* B. C. T. D. F. P. N. Mch.

punctatum, W. (W. p. Au. ♃.) leaves in fours or fives, petioled, ovate, acuminate, serrate, scabrous both sides: stem solid, terete. Is this a variety of the last? N. 3—5 f. P. Y. O. D. F.

perfoliatium, (5) (boneset, thorough-wort. O. w. Au. ♃.) leaves connate-perfoliate, oblong-serrate, rugose, downy beneath: stem villose. 2 f. *S.* Mch.

coelestinum, W. (b. Au. ♃.) leaves petioled, heart-ovate, obtusish, 3-nerved, obtusely serrate, slightly scabrous: involucre many-leaved, many-flowered (30—40:) receptacle conic. 2—3 f. *S.* P. Harper's Ferry. M. Mch.

ovatum, Bw. (w. Au. ♃.) hairy, scabrous: leaves opposite, sessile, ovate, obtusely dentate: corymb fastigiate: involucre about 8-flowered. 3—4 f. B.

aromaticum, Mx. (6) (w. Au. ♃.) leaves petioled, cordate-ovate, (ovate, Ph.) acute, 3-nerved, obtusely serrate, somewhat scabrous: flowers corymbed: scales of the involucre sub-equal. 2 f. *S.* B. M. S—C.

ageratoides, W. (7) (w. Au. ♃.) leaves petioled, ovate, acuminate, 3-nerved, unequally and coarsely toothed, serrate, glabrous: corymb many-flowered, spreading; involucre simple. 2—4 f. *S.* V. C. T. P. O. F. N. White Mts. M. S—C. Mch.

Southern.

foeniculaceum, W. (8) (y-w. S. ♃.) stem panicled: leaves glabrous; lower ones pinnate; upper ones clustered; all filiform. 3—10 f. Charleston, S—C.

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(1) teucrifolium, W. pilosum, Wr. (2) glandulosum, Mx. (3) ternifolium, G. E. (4) purpurerum, Mx. (5) connatum, Mx. (6) cordatum, Wr. (7) urticaefolium, Mx. Ageratum altissimum, L. (8) foeniculoides, Wr. Chrysocoma capillacea, Mx.

coronopifolium, W. (1) (w. S. ♃.) stem panicled: lower leaves pinnatifid; divisions lance-linear, denticulate; upper leaves undivided, linear, clustered; all punctate, pubescent. 3—4 f.

cuneifolium, W. (w.) leaves petioled, obovate-lanceolate, slightly serrate at the summit, 3-nerved, pubescent on both sides. 1 f.

falcatum, Mx. (W.) without hair: leaves in fours, lance-oval, acuminate at each end, sub-falcate, sparingly serrate: outer scales of the involucre short, oval.

pinnatifidum, E. (w. S. ♃.) leaves pinnatifid: lower ones verticillate; upper ones alternate; divisions linear, pubescent: flowers corymbed. 3—4 f. S—C.

glaucesens, E (w. S.) leaves nearly sessile, lanceolate, obtusely serrate, entire at the base, 3-nerved, somewhat glaucous, pubescent: flowers corymbed. 2 f.

parviflorum, E. (w. S.) leaves sessile, narrow-lanceolate, very acutely serrate, pubescent on both sides: flowers corymbed, small: akenes angled. 2 f.

serotinum, Mx. (w. S.) leaves petioled, lance-ovate, tapering towards the summit, acute, coarsely and acutely serrate, 3-nerved, pubescent: scales of the involucre imbricate. 5—6 f. H. S—C. K.

incarnatum, Wr. (p. Oc.) leaves long, petioled, deltoid, cordate, acute, obtusely toothed, 3-nerved, thin, nearly glabrous: scales of the involucre nearly equal. 2 f.

torreyanum, (S.) leaves ternate and opposite, sub-sessile, narrow-lanceolate, coarsely serrate, three-nerved, punctate beneath, glabrous above. 2 f. Found on dry sandstone knobs in the barrens of Kentucky near Mammoth Cave.

19—1.[*] EUPHOR'BIA. 96. Euph. ton. iri. cat—. poi—.

1. *Flowers with involucred umbels.* (2)

corollata, W. (W. Ju. ♃.) umbel 5-cleft, 3-cleft, and dichotomous: involucels and leaves oblong, obtuse: petals obovate, and resembling appendages of the calyx. Var. *angustifolia*, E. leaves linear-lanceolate, sessile, paler and hairy beneath: umbel 3-cleft; rays elongated: upper branches dichotomous. 1—2 f. *S.* Y. T. P. H. N. D. M. S—C. Mch.

peplus, W. (wild caper, W. Ju. ☉.) umbel 3-cleft, dichotomous: involucels ovate: leaves entire, obovate, petioled. *S.* P. K.

obtusata, Ph. (W. Ju. ♃.) umbel 3-rayed, twice dichotomous: involucels ovate, obtusish, sub-cordate: leaves alternate, sessile, spatulate, serrulate, smooth: capsule muricate. 12—18 i. *S.*

mercuri'ali'na, Mx. (W. Ju. ♃.) stem slender, weak, simply 3-cleft: leaves opposite and ternate, sub-sessile, oval, entire: peduncles terminal, solitary, 1-flowered. *S.* P.

pilosa, W. (W. Ju. ♃.) umbel with 5 primary rays, bifid: involucels ovate: leaves lanceolate, somewhat hairy, serrulate at the extremity: petaloid segments of the involucre entire. 1—2 f. *S.*

helioscopia, L. (☉.) umbel with 5 primary rays, bifid: involucels obovate: leaves wedge-form, serrate, glabrous: capsules smooth. 12—18 i. T. B. Mch.

herronii, Riddell. (Au. S. ☉.) root small, branching and fibrous: stem erect, pilose: branches decussately opposite: petioles ciliate, half as long as the leaves; lower leaves rhomb-ovate: those of the involucre lance-linear, dentate-serrulate, pilose above, veins and midrib very hairy beneath: umbels small, terminal, involucred and few-flowered. Middletown, O.

Euphorbia. Dedicated to Euphorbus, the physician of Juba, king of Mauritania, who first used it in medicine.

(1) compostifolium, Wr. Chrysocoma coronopifolia, Mx. (2) This section comprises the genus Esula, 2d ed.

[*] Authors have differed much in regard to the location of this plant in the Linnean system. Linneus placed it in the Polyandria monogynia in his first edition—in the Dodecandria trigynia in his sixth. Smith, Persoon, Muhlenburgh, and Bigelow, follow Linneus. Darlington places it in the Monoecia polyandria. Nuttall says, the stamens are attached to the involucre, by which he supposes them sufficiently united to be placed in the Monoecia monadelphia. But it appears to me, that the German botanist, Roeper, has demonstrated in his *Enumeratio Euphorbiarum*, that it belongs to Monoecia monandria. He has shewn that each stamen has a distinct location, without any connexion with the pistil or with any other stamen.

2. *Flowers not in involucred umbels.*

hypericifolia, W. (spurge, eye bright. W. Ju. ⊙.) dichotomous, glabrous, very branching, sub-erect, spreading: leaves opposite, serrate, oval-oblong, sub-falcate, short petioled: corymb terminal and axillary. Var. *hirsuta*, T? stem slender, hairy: leaves oblong, smooth, serrulate. 12—18 i. *S.* B. C. F. T. M. S—C.

maculata, L. (1) (W. Ju. O. ⊙.) stem procumbent, or erect, branching, hairy: leaves opposite, oval or oblong, serrulate, oblique at the base, short peticled, smooth above, hairy, and pale beneath: flowers solitary and axillary, much shorter than the leaves. 6—12 i. *S.*

polygonifolia, Jn. (W. Ju. ♃.) very glabrous, diffused, succulent: leaves opposite, entire, lance-linear, obtuse at the base: flowers solitary, axillary: stipules simple. Y. P. B. C. D. F. S—C. M. Mch.

ipecacuan'hae, (W. Ju. ♃.) procumbent, small, glabrous: leaves opposite, oboval or lanceolate: peduncles axillary, elongated, 1-flowered. *S.* Y. P. F. M.

portulacoides, Ph. (W. Ju. ♃.) erect: leaves entire, oval, retuse: peduncles axillary, 1-flowered, as long as the leaves. A variety of the corollata? T. *S.* P.

dentata, Mx. (W. Ju. ⊙.) hairy: leaves opposite, oval, dentate: flowers crowded at the summit of the stem. *S.* P.

Exotic.

lathyrus, (spurge caper. J. ♂.) umbel 4-cleft, dichotomous: leaves opposite, entire, lanceolate, pointing four ways.

Southern.

cyathophora, W. (O. Ju. ⊙.) somewhat shrubby: leaves petioled, ovate, slightly toothed, panduriform; upper ones and involucres colored: flowers sub-umbelled. 2 f.

graminifolia, Mx. ( ) small, erect, branching at the base, finely pubescent: leaves scattered, linear, entire; upper ones discolored at the base: flowers fascicled, terminal.

thymifolia, L. (W.) procumbent, slender, pubescent: leaves opposite, oval-oblong, obtuse, slightly serrate near the summit: heads axillary, clustered, nearly sessile.

pubentissima, Mx. (W. Ju. ♃.) erect, very pubescent; stem somewhat dichotomous: leaves opposite, sessile, oval, sub-cordate, obtuse: peduncles solitary.

marginata, Ph. (W. w. Ju. ⊙.) umbel 3-cleft, twice dichotomous: involucre leaf-like; involucels oblong, cordate, colored, membranaceous at the margin: leaves lance-oblong, sub-cordate-clasping, acute, becoming glaucous, glabrous: petal-like appendages of the calyx roundish: capsules pilose.

cordifolia, E. (w. M. ⊙.) procumbent, glabrous, branching: leaves small, opposite, broad-oval, entire, cordate at the base: flowers axillary, solitary. 8—15 i.

gra'cilis, E. (J. ♃.) stem erect, dichotomous, glabrous: leaves opposite, remote, sessile, lance-linear: peduncles solitary, in the divisions of the stem, longer than the leaves. 12 i. S—C.

paniculata, E. (Au.) umbel 3-cleft, dichotomous: flowers terminal, somewhat panicled: leaves oval, sessile, slightly hairy beneath: stem sometimes hairy. 1—2 f. S—C.

hex'ago'na, N. (W.) tall, slender, very branching: leaves linear: flowers in axillary clusters.

variegata, leaves oval, entire, wavy, edged with white: capsules smooth: stem hairy. Missouri. Louisiana.

13—2. EUPHRA'SIA. 36. Rhin. aro. ton. nar—. ast.—.

officinalis, W. (eyebright. w. Ju. ⊙.) leaves ovate, obtusely toothed: lower divisions of the lip emarginate. P. Canada.

latifolia, W. (Ap. Ju. ⊙.) leaves ovate, tooth-palmate: flowers spiked: corol tubular; divisions of the lower lip obtuse. Labrador.

Euphrasia. Gr. *euphrainō*, to exhilarate, alluding to its reputed joyful effects in disorders of the eyes.

(1) thymifolia? Ph. depressa, E.

5—2. Evol'vulus. 44. Conv. r. cat. ape.

Southern.

argenteus, Ph. (W. p. M. ♃.) stem simple, erect: leaves oblong, acute, silky-tomentose on both sides; peduncles 1-flowered, short.
nummularis, (W. ☉.) leaves roundish: stem creeping: flowers sub sessile.
sericeus, Sw. (1) (☉.) leaves lanceolate, sessile, silky beneath: peduncles short, 1-flowered.

17—2. Eury'bia. 55. Aste. ton. sec-stim.

macrophylla, Cass. Described under Aster *macrophyllus.*
corymbosa, Cass. Described under Aster *corymbosus.*

14—1. Eu'trema. 63. Cruc. asc. edi. s. stim.

edwardsii, R. Brown. (w.) silicles lanceolate: septum obliterated: leaves ovate-lanceolate, on long petioles. 2—4 i. Arctic America.
arenicola, Richards. (w.) silicles broadly linear: septum complete, leaves spatulate-oblong. 2—3 i. Arctic America.

4—1. Ex'acum. 46. Gent. ton-bit.

pulchellum, Ph. (gentianella. L. r. Au. ☉.) corol 4-cleft: calyx 4-parted; divisions subulate: panicle corymbed: peduncles filiform.

F.

19—12. Fa'gus. 99. Cupu. emo. tim. f. nut. b. ast.

fer'rugi'nea, A. (red beech. O. y-w. M. ♄.) leaves ovate-oblong, acuminate, pubescent beneath, coarsely toothed, at the base obtuse. sub-cordate-oblique: nuts ovate, acutely 3-sided. 40—60 f.
sylvatica, (2) Var. *americana*, (white beech. y-w. M. ♄.) leaves ovate, acuminate, slightly toothed, ciliate at the margin, acute at the base: nuts ovate, 3-sided, obtuse, mucronate. 50—100 f. S. T. F. Florida.

3—1. Fe'dia. (3) 56. Vale. ton. ver. bit. ner.

radiata, Mx. (4) (wild lamb lettuce, corn-sallad. W. w. J. ☉.) stem dichotomous: leaves spatulate-oblong, sub-entire: fruit pubescent, about 4-sided, naked at the apex. 8—18 i. S. P. T. S—C.
chenopodifolia, Ph. (W. ☉.) dichotomous: leaves ovate, acute, dentate below: cyme naked, divaricate, dichotomous: filaments long. 8 i. M.

Exotic.

olitoria, (lamb lettuce,) stem dichotomous: leaves lance-linear.

5—2. Fer'ula. 60. Umbe. s. stom. h. nar. if nau.

palmella, H. (W. w.) glabrous, somewhat stemless: leaves bipinnatifid, glaucous, long petioled, segments linear, obtusish, with the lower ones often a second time

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Evolvulus. Lat. *evolvo*, to roll outward, in opposition to Convolvulus.
Eurybia. Gr. *eurus*, broad, *bia*, a redundant adjunct: on account of the broad leaves.
Eutrema. Gr. *eu*, elegant, *tremo*, to tremble; in allusion to the elegant tremulous motion of the long-petioled leaves!
Exacum. The ancient name of a plant nearly related to Centaurium; derived from Gr. *ex*, out, and *ago*, to drive; being reputed to expel poison from the stomach.
Fagus. Gr. *phago*, to eat: the fruit having been long known as edible.
Fedia. Gr. *pheido*, clemency: from its harmless, inert qualities.
Ferula. Lat. *ferio*, to strike; it being much used for whipping school-boys when the stalk is dry; for it makes a great noise, without giving pain.

(1) nuttallianus, R. (2) sylvestris, Mx. (3) Valerianella, Dc. (4) Valeriana; W. Ph.

pinnatifid: peduncle somewhat shorter than the leaves: involucre 0; involucels unilateral, halved, palmate: disk flower-bearing. 9 i. A.

foenicula'cea, N. (W. y. M. ♃.) stemless, pubescent: leaves more than decompound, somewhat biternate-pinnate; primary divisions decussate at the base; segments shortish, narrow-linear, acutish; ultimate divisions 3-cleft: involucel halved, 5—7-lobed. 1 f.

nuttallii, Dc. (1) (W. w. M. ♃.) leaves radical, thrice ternate; leafets unequally-sparingly toothed: ray umbels elongated: involucre and involucel nearly wanting: scape radical.

3—2. Festu'ca. (2) 10. Gram. far. ton.

elatior, (fescue-grass. O. J. ♃.) panicle spreading, very branching, lax: spikelets ovate-lanceolate, 4—5-flowered; florets slightly armed: leaves flat. root creeping. 3—4 f.

myurus, L.? (J. ♂.) panicle slender, crowded, equal: spikelets about 4-flowered; florets subulate, awned, hairy, monandrous. 6—12. i. *S.* S—C. M. Mch.

tenella, W. (3) (W. J. ☉.) panicle spiked, very simple, 1-sided: spikelets about 9-flowered: bristles shorter than the subulate florets: culm filiform, angular above: leaves setaceous. 8—15 i. *S.* P. W. Y. B. N. S—C.

durius'cula, L. (hard fescue-grass. J. ♃.) panicle 1-sided, oblong, contracted: spikelets 5—6-flowered, nearly terete: florets terminated by short bristles: root fibrous. Perhaps introduced. 12—18 i. *S.* Y. K.

rubra, L? (J. ♃.) panicle 1-sided, erect, spreading: spikelets teretish: florets longer than the bristle at their tips: leaves pubescent above: root creeping. 18 i. P.

praten'sis, Hd. (W. J. ♃.) panicle spreading, branched: spikelets linear, many-flowered, acute: leaves linear: root fibrous. Panicle sub-secund, nearly simple. 1—2 f. M.

poacoi'des, Mx. (W.) panicle somewhat crowded; lower branches simple: spikelets alternate, oblong, sub-sessile, unarmed: leaves flat, very glabrous. Canada.

nutans, W. (W. J. ♃.) panicle diffuse, at length nodding: branches long, in pairs, naked below: spikelets ovate, 3—5-flowered: florets somewhat obtuse, unarmed, nerveless. 3 f. *S.* Y. P. C. O. M. N. D. Mch.

fascicularis, Lk. (4) (Au. ☉.) culm procumbent, geniculate: panicle sub-secund: branches straight, spike-like: spikelets appressed, 8—10-flowered; florets armed: leaves very long. 1 f. *S.*

clandestina, M. (W.) panicle partly concealed in the sheaths: branches solitary, simple: spikelets 10-flowered; florets awned. 8 i. Y.

ovina, W. ( ) panicle contrasted: spikelets ovate, 4-flowered: paleas roundish: leaves very narrow, rough. Mch.

Southern.

spicata, Ph. (W. J.) spikelets alternate, sessile, erect, somewhat 5-flowered; florets subulate, sub-glabrous, with a long, scabrous awn: linear leaves and culm glabrous.

grandiflora, Lk. ( ) panicle simple, erect: spikelets very few, generally 7-flowered: florets acute, distant.

parviflora, E. (Ap. ♃.) panicle equal, slender, appressed: spikelets terete-subulate, 5-flowered, awned: glumes unawned. 12—18 i.

Festuca, Glyceria, Diarrhena, Uniola, Ceratochloa.

20—3. Fi'cus. 98. Urti. f. nut. sug. b. ton.

Exotic.

carica, (fig tree. g. Ju. ♄.) leaves cordate, 3 or 5-lobed, repand-toothed; lobes obtuse, scabrous above, pubescent beneath. 5—8 f.

Festuca. In Celtic the word *fest*, signifies pasture, food.

Ficus. A name as obscure as it is ancient, and nearly the same in many languages, always applied to the fig.

(1) F. nudicaulis, N. Smyrnium nudicaulis, Ph. (2) Schenodorus, R & S. (3) bromoides, Mx. octoflora, W. (4) polystachya, Ph. E. Mx.

3—1. FIMB'RISTY'LIS. (1) 9. Cype. far. nut. sug.

spadi'ceum, (Ju. ♃.) spikes ovate-lanceolate: involucre rigid, with one leaf longer than the umbel: leaves subulate, teretish, striate. 2—3 f. *S.* Mch.

ferrugineum, (2) (M. ♃.) stem compressed; angles near the summit scabrous: leaves concave, those of the involucre unequally ciliate: spikes lanceolate, roundish. 1—3 f. *S.* P.

Southern.

castaneum, Mx. (Ju. ♃.) spikes ovate-oblong, obtuse: involucre 2-leaved, rigid, as long as the compound umbel.

cylindricum, (♃.) spike cylindric, very obtuse: involucre about 1-leaved, rigid, equalling the simple umbel.

6—1. FLOER'KEA. 92. Chrys. ton—. nut.

uliginosa, M. (3) (false mermaid. W. w-y. Ap. ♃.) leaves alternate; those under water ternate, those above water quinate-pinnate. Grows in great quantities along the south-east part of Lake Erie—often 1 f. Found in ditches between Albany and Troy. *S.* T.

Forrestiera, BORYA.

11—2. FOTHERGIL'LA. 78. Hama. ton.

Southern.

alnifolia, W. (4) (witch alder. w. Ap. ♄.) leaves wedge-obovate, crenate-toothed above. Var. *major*, has ovate-oblong leaves, subcordate. Var. *acuta*, has ovate-acute leaves.

11—13. FRAGA'RIA. 92. Rosa. ast. f. ref. feb.

virginiana, (5) (wild strawberry. O. w. M. ♃.) calyx of the fruit spreading. distinct: hairs on the petioles erect, on the peduncles close-pressed: leaves somewhat glabrous above: pedicels generally few: receptacles of the carpels conic-oblong, or ovate with carpels immersed.

canadensis, Mx. (mountain strawberry. W. w. M. ♃.) large: leafets broad-oval, lateral ones manifestly petioled: pedicels numerous, recurve pendulous: receptacles of the carpel globose, honeycomb-scrobiculate, villose: calyx of the fruit erect, cohering. Leaves darker green: carpels upon the external surface of the berry-like receptacle. *S.* P. D. T. Canada.

chilensis, Ehr. (   ) flowers spreading: leafets broad-ovate, very obtuse, coarsely serrate, coriaceous, rugose, beneath silky villose: peduncles and calyx silky. A. R.

Exotic.

vesca, (english strawberry. w. M. ♃.) calyx of the fruit reflexed: hairs on the petioles spreading, on the peduncle close-pressed.

elatior, (hautboy strawberry. w. ♃.) calyx of the fruit reflexed: hairs on the peduncle and petiole spreading.

grandiflora, (pine-apple strawberry. w. ♃.) calyx of the fruit erect: hairs on the peduncle and petiole erect: leaves coriaceous, somewhat glabrous above.

7—3. FRANKENIA. 82. Cary. emo.

Southern.

grandifolia, Cham. and Schlecht. (   ) leaves obovate-cuneiform, mucronate, with revolute margins, rather coriaceous, very minutely hairy and ciliate, particularly at the base: stem prostrate: branches and calyx minutely hairy. California.

Fimbristylis. Lat. *fimbria*, a fringe, and *stylis*, the style, alluding to the fringed style of the flower.

Floerkea. In honor of Floerke, a German botanist.

Fothergilla. In honor of John Fothergill, an English cultivator of exotics.

Fragaria. Lat. *fragro*, to smell sweetly, on account of the perfume of its fruit.

Frankenia. In honor of Prof. John Frankenius, of Upsal, Sweden.

(1) Scirpus, L. Mx. &c. (2) puberulum, Vahl. (3) palustris, N. lacustris, P. proserpinacoides, W. (4) gardeni, Mx. (5) glabra, Du Hamel.

4—1. FRASE'RA. 46. Gent. ton.

caroliniensis, Wr. (1) (pyramid flower, colombo root. W. r. & y. Ju. ♂.) leaves whorled or opposite: flowers in clusters. Tonic, bitter, mild cathartic, and emetic. Bw. 3—6 f. *S.* D. Mch.

20—2. FRAX'INUS. 34. Olea. b. bit. ast.

sambucifolia, Mx. (black ash. O. M. ♄.) leafets sessile, lance-ovate, serrate, rugose, shining, round-oblique at the base: axils of the veins villose beneath: flowers naked, not calycled. *S.* Mch.

acuminata, Lk. (2) (white ash. O. w-g. M. ♄.) leafets petioled, oblong, shining, acuminate, very entire, or slightly toothed, glaucous beneath: flowers calycled. *S.* Mch.

pubescens, Wr. (3) (red ash. M. ♄.) leafets petioled, oval-ovate, serrate; petioles and branchlets downy beneath: flowers calycled. Var. *longifolia*, leafets narrow, lance-ovate, sub-serrate. Var. *latifolia*: leafets ovate, broad, serrate, serratures obsolete towards the middle. Var. *sub pubescens*, leafets oval-oblong, acuminate, sharply serrate, sub-pubescent below, common petiole very glabrous. P. C. N. T. Mch.

juglandifolia, W. (4) (walnut-leaf ash, swamp ash. M. ♄.) leafets petioled, ovate, opake, serrate, glaucous beneath: axils of the veins pubescent: branchlets glabrous: flowers calycled: leafets 6 to 15, long. *S.* P. W. T.

epiptera, Vahl. (5) (M. ♄.) leafets lance-oval, sub-serrate: samaras wedge-form, obtuse-emarginate at the apex, terete below. *S.* P. Y.

platycarpa, Mx. (Ap. ♄.) leafets petioled, serrate, and, like the fruit, lance-elliptic. *S.* Y.

caroliniana, W. (Ap. ♄.) leafets petioled, lanceolate, serrulate, shining, glabrous: branchlets glabrous: flowers calycled. *S.*

quadrangulata, W. (blue ash. W. M. ♄.) leafets sub-sessile, lance-oval, serrate, pubescent beneath: samara obtuse at each end. Mch.

Southern.

triptera, N. (♄.) leafets obovate, entire, sub-sessile, tomentose beneath, oblique at the base: fruit broad, obovate, generally 3-winged, tapering at the base.

6—1. FRITILLA'RIA. 14. Lili. diu. emo.

Southern.

lanceolata, Ph. (5) (W. p. Ju. ♃.) stem leafy, 1—2-flowered: leaves lance-linear obtusish; lower ones whorled: petals lanceolate.

alba, N. (W. w. Ap. ♃.) glaucous: leaves remotish, alternate, sessile, oblong-linear, flattish, oblique, obtuse, substriate beneath: flowers 1—3, axillary and terminal. 1 f.

atropurpurea, M. (br.) leaves scattered, linear, acute: stem sub-3-flowered: petals lanceolate, distinct at the base: stigma revolute, very long. 8—12 i. R.

Exotic.

imperialis, (crown imperial. r. & y. M. ♃.) flowers under a leafy crown nodding: leaves lance-linear, entire. From Persia.

meleagris, (frittillary, guinea-hen flower. p. & y. M. ♃.) leaves alternate, linear, channelled: stem 1-flowered: nectary linear. Flower checkered.

8—1. FU'CHSIA. 88. Hydr. ton—.

Exotic.

magellanica, Lk. (7) (ear-drop. r.) peduncles axillary, 1-flowered: leaves opposite or in threes, very entire. Flowers pendulous.

Frasera. In honor of John Fraser, an American cultivator of exotics.

Fraxinus. Lat. *fraxinus*, the ash, supposed from Gr. *phraxis*, a hedge, from the use sometimes made of it.

Fritillaria. Supposed from *fritillus*, a chess board, alluding to the chequered petals.

Fuchsia. In honor of L. Fuchs or Fuchsin, a noted German botanist.

(1) walteri, Mx. (2) concolor, Mx. americana, W. (3) tomentosa, Mx.
(4) caroliniana, Wm. (5) discolor, Mx. (6) Lilium kamschatkiense, W.
(7) coccinea, A.

3—1. FUIRE'NA. 9. Cype. far. nut. sug.

squarrosa, Mx. (umbrella grass. W. Ju. ♃.) spikes clustered (5—6,) ovate: culm smooth: leaves ciliate: sheaths hairy: valves of the corol cordate-ovate. Var. *pumila*, culm pubescent above: leaves smooth: throat of the sheaths hairy: spikes 1—3, terminal. 18 i. S. Var. *pumila*, 3—6 i. Y. Charleston, S—C. Mch.

Southern.

his'pida, E. (Au.) leaves long, with the sheaths very hispid: stem hispid above: heads many (5—8) clustered: valves of the corol ovate, mucronate. 1—2 f.

Fuirena, VAGINARIA.

16—6. FUMA'RIA. 93. Legu. nut. asc. ape.

officinalis, (fumitory. r. J. ☉.) stem branching, spread: leaves more than decompound; leafets lance-wedge-form, gashed. Naturalized. 6—10 i. I have seen this plant growing wild in extensive plats on fields and road sides, in the south part of Barrington, Mass. G. C. Y. P. B. F. Canada.

Fumaria, CORYDALIS.

G.

16—10. GALACTIA. 93. Legu. nut. asc. ape.

glabella, Mx. (1) (milky-way plant. r. & w. J. ♃.) prostrate, somewhat twining and glabrous: leaves ternate; leafets oval-oblong, obtuse, emarginate at both ends: raceme axillary, as long as the leaves: legumes villose. S. Y. P. Peekskill.

mollis, Mx. (2) (r. & w. Ju. ♃.) twining, having soft whitish pubescence: leaves ternate, ovate-oblong, obtuse, smoothish, glaucous beneath: racemes axillary, simple, elongated, few-flowered: legumes villose. S. Y. P.

Southern.

villosa, N. (p. Ju. ♃.) densely pilose: leaves ternate; leafets oblong-ovate, obtuse, pale beneath: racemes axillary, much longer than the leaves: flowers scattered on short pedicels.

elliotti, N. (w. J. ♃.) leaves pinnate: leafets oval, emarginate, glabrous above, pubescent beneath: racemes long, few-flowered.

pilosa, N. ( ) stem twining, minutely and retrorsely hirsute: leafets oblong-ovate, finely hirsute on both surfaces, pale beneath: racemes much longer than the leaves: flowers on short pedicels, scattered and remote: legume villous. North Carolina to Florida; west to Louisiana and Arkansas.

floridana, T. (r-p.) prostrate: whole plant tomentose, with a whitish pubescence: leafets oval, very obtuse: racemes a little longer than the leaves: fascicles of flowers approximated: pedicels half the length of the calyx: legume villous. Florida.

canescens, Benth. ( ) creeping, somewhat twining, canescent: leafets broadly ovate, retuse, slightly hirsute above, silky pubescent beneath: peduncles fasciculate, elongated, interruptedly few-flowered: calyx silky villous. Texas.

spiciformis, T. (p-r.) stem nearly glabrous: leafets ovate-oblong, coriaceous, rather acute, indistinctly veined, glabrous above, minutely hirsute beneath: racemes much longer than the leaves; flowers approximated, and nearly sessile: legume slightly falcate, pubescent. Florida.

brachypoda, T. (p.) nearly glabrous: stem not twining: leafets oblong or linear-oblong, somewhat coriaceous, reticulated, paler beneath, obtuse or emarginate: petioles longer than the leafets; racemes shorter than the petioles, few-flowered: calyx villous. Middle Florida.

Fuirena. In honor of Geo. Fuiren, a Dutch botanist.

Fumaria. Lat. *fumus*, smoke, from the juice and odor having the same effect as smoke on the eyes.

Galactia. Gr. *gala*, milk, the plant being milky in all its parts.

(1) Dolichos regularis, W. Ervum volubile, Wr. (2) Hedysarum volubile, W.

sessiliflora, T. (p.) glabrous: stem erect, flexuous: leafets shorter than the petiole, oblong-linear or linear, somewhat coriaceous, glaucous beneath, the terminal one sub-sessile: racemes very short, sessile. 1 f. Florida, Alabama.

marginalis, Benth. (r.) suffruticose: branches prostrate, somewhat silky-pubescent, at length glabrous: leaves 1-foliolate: leafet oblong-lanceolate or linear, narrowed at the base, coriaceous, glabrous, with a marginal nerve beneath: peduncles very short, axillary, 1—3-flowered: calyx pubescent: segments as long as the tube. Texas.

6—1. GALAN'THUS. 17. Amar. r. eme.-|- diu.

Exotic.

nivalis, (snowdrop. w. Ap. ♃.) leaves linear, keeled, acute, radical: scape 1-flowered.

17—3. GALAR'DIA. 55. Heli. ton. sec—. stim.

pinnatifida, T. & J. (W. y. p.) leaves pinnatifid: divisions lance-linear, somewhat entire. 8 i.

Southern.

bicolor, Lk. (1) (W. p. J. ♃.) leaves alternate, sessile, lance-linear, acute, pubescent, sparingly serrate, ciliate; ciliæ hooked: flowers solitary, terminal: scales of the involucre lanceolate, acute, pubescent: outer ones reflexed: inner ones erect: chaff of the egret very entire, awned. Var. *aristata*, Ph. very hirsute, scabrous: stem branching: leaves lance-linear, sessile: chaffs of the egret (5—7) ovate-lanceolate, very long awned. 2 f. Florida.

Galardia, ACTINELLA, LEPTOPODA.

17—2. GALATEL'LA. 55. Corym. ton. sec-stim.

nemoralis, Cass. Described under Aster, by the specific name *ledifolius*.
graminifolia, Described under Aster, *graminifolius*.

5—1. GA'LAX. 83. Gala. ton—.

Southern.

rotundifolia, Mx. (2) (A. w. J. ♃.) very glabrous: leaves round-reniform, toothed: spike very long.

Galega, TEPHROSIA.

13—1. GALEOP'SIS. 42. Labi. stom. ton.

tetra'hit, (flowering nettle, hemp nettle. O. r. w. Ju. ☉.) the spaces between the joints of the stem thicken upwards: leaves ovate, hispid, serrate, calyx prickly, shorter than the corol: stem rough-haired. 1—2 f.

ladanum, (red hemp nettle. E. r. Ju. ☉.) stem hairy: internodes not swollen: leaves lanceolate, sub-serrate, hairy: upper lip of the corol sub-crenate. 1 f. B. Mt. Holyoke.

4—1. GA'LIUM. 57. Stel. ast. dye.

1. *Fruit glabrous.*

trifidum, W. (3) (bed-straw. W. w. Ju. ♃.) stem procumbent, scabrous backwards: cauline leaves in fives; branch leaves in fours, linear, obtuse; scabrous at the mar-

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Galanthus. Gr. *gala*, milk, and *anthos*, flower, alluding to its milky whiteness.
Galardia. In honor of M. Gaillard de Charrentonneau, a French amateur of botany.
Galatella. Gr. *gala*, milk, with a diminutive adjunct; on account of the milky juice of the plant.
Galax. Gr. *galax*, milky; from the whiteness of its flowers.
Galeopsis. Gr. *galē*, a weasel, and *opsis*, appearance; from the grotesque figure of the flower.
Galium. Gr. *gala*, milk, because one species will coagulate milk.
(1) lanceolata, Mx. (2) aphylla, W. Erythrorhiza, Mx. (3) Claytoni, Mx.

gin and on the nerves: fascicles terminal, few-flowered: pedicels short: corols mostly 3-cleft. *S.* W. Y. P. T. B. C. N. F. Mch. K. M.

verum, (yellow bed-straw. y. Ju. ♃.) leaves whorled, about in eights, linear, grooved, entire, scabrous: flowers in dense panicles. Var. *latifolium*, leaves wedge-obovate.

tinctorium, (wild madder, dyer's cleavers. O. w. Ju. ♃.) stem diffuse, smoothish: cauline leaves in fives and sixes; branch leaves in fours, linear-acutish: peduncles terminal, elongated, 2—3-flowered. 1 f. *S.* Mch.

obtusum, Bw. (W. w. Ju. ♃.) stem smooth, procumbent: leaves in fours, oblanceolate, obtuse, rough on the margin and midrib. B. T. C. Mch.

asprellum, Mx. (rough bed-straw. O. w. Ju. ♃.) stem diffuse, very branching, prickly backwards: leaves in fives and sixes, lanceolate, acuminate; margins and nerves prickly: pedicels short. 18—24 i. S. Mch.

2. *Fruit hirsute.*

brachiatum, Ph. (bed-straw. w. Ju. ♃.) stem limber, long, brachiate-ramose, hispid: branches short: leaves in sixes, lance-oblong, acuminate, glabrous: margin and keel ciliate: branches whorled, the longest dichotomous: pedicels 2-flowered: fruit with hooks. *S.* V. Y. P. T. C. N. Mch.

aparine, (catch-weed, goose grass. W. w. J. ♂.) stem limber, scabrous backwards: leaves in about eights, linear, and linear-oblanceolate, mucronate, hispid above, margin and keel prickly: fruit hook-bristled. 3—4 f. P. Y. W. B. C. O. N. F. M.

micranthum, Ph. (W. w. Ju. ♃.) stem very branching, prickly backwards: leaves short, lanceolate, mucronate, glabrous; margin and keel prickly: pedicels about 2-flowered.

triflorum, Mx. (1) (O. w. Ju. ♃.) stem procumbent, smoothish: leaves in fives or sixes, lance-obovate, mucronate glabrous, scarcely ciliate at the margin: branchlets 3-flowered at the end; flowers pedicelled: fruit small. *S.* Mch. M.

pilosum, A. (W. p. J. ♃.) stem nearly simple, long, ascending, remotely geniculate, hispid: leaves in fours, oval, short-mucronate, very hirsute both sides, nerveless: branchlets nearly simple, about 3-flowered at the end: fruit pilose. 1 f. *S.* P. Y. T. N. C. O. F. Mch.

circæ'zans, Mx. (2) (wild liquorice, cross cleavers. O. w-y. J. ♃.) stem erect, smooth: leaves in fours, oval, acutish, smoothish: margins and nerves a little ciliate: peduncles few-flowerd: flowers remote, sub-sessile: fruit with hooked bristles. Leaves taste much like liquorice. 6—12 i. *S.* Mch. M.

lanceolatum, T. (W. p. Ju. ♃.) stem erect, very smooth: leaves in fours, lanceolate, generally acute, smooth, 3-nerved, sub-ciliate at the margin: peduncles divaricate: fruit sub-sessile, nodding, hook-bristled. 1 f. D. O. B. P. T. H. N. Owego. Mch. K. M.

boreale, (3) (W. w. Ju. ♃.) stem stiffly erect, smoothish, branching: branches short, erect: leaves in fours, linear-lanceolate, obtuse, 3-nerved, with involute scabrous margins: flowers panicled, terminal: fruit minutely hook-bristled. 12—24 i. T. Y. P. B. C. O. F. N. Owego. Mch.

Southern.

latifolium, Mx. (A. p. Ju.) stem erect, smooth: leaves in fours, oval, acute, membranaceous, somewhat hispid on the margin: peduncles divaricate, loosely many-flowered: fruit smooth. Carolina.

uniflorum, Mx. (p. J. ♃.) stem assurgent, smooth: leaves generally in fours, linear, acute, revolute: peduncles generally solitary, 1-flowered: fruit smooth.

hispid'ulum, Mx. (w. M. ♃.) stem procumbent, pubescent, much branched: leaves in fours, lanceolate, dotted, scabrous: fruit scabrous. Carolina.

cuspidatum, Dc. (♃.) stem prostrate, glabrous: leaves about in sixes, lance-acuminate, thinly-ciliated: peduncles trifid: lobes of the corol acuminate: fruit pilose. Hairs on the fruit long and white.

10—1. GAUL'THERIA. 51. Eric. h. ast. o. sto. stim.

procumbens, (spicy wintergreen. O. w. J. ♃. or ♄.) stem procumbent: branches

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Gaultheria. In honor of Dr. Gaulthier, a French botanist of Quebec.

(1) cuspidatum, M. (2) brachiatum, M. boreale, Wr. (3) strictum, 4th ed. septentrionale, Dc.

erect: leaves obovate. acute at the base: flowers few, nodding. Berries red, consisting in part of the permanent calyx; a little mealy; pleasant tasted. *S.* Mch.

hispid'ula, M. (1) (creeping wintergreen. W. w. M. ♄.) stem creeping, hispid: leaves oval, acute: flowers solitary, axillary, sub-sessile, having but 8 stamens, short-bell-form. B. D. N. Mch.

shallon, Ph. (W. w. J. ♄.) erect, fruticose: leaves ovate, sub-cordate, serrulate: raceme 1-sided, bracted: pedicels 2-bracted in the middle. *S.*

8—1. GAU'RA. 88. Onag. emo.

biennis, (virginian loosestrife. r. & y. Au. ♂.) leaves lanceolate, toothed: spike crowded: fruit roundish-4-cornered, pubescent. 4—6 f. *S.* T. P. C. H. O. M. Peekskill. Mch. S—C.

villosa, T. & J. (W. r.) herbaceous: stem panicled above, naked, very glabrous: leaves silky-villose, lanceolate, acute. remotely toothed and entire: petals obovate, obtuse: stamens declined: flowers octandrous: capsules linear-oblong. 3 f.

parvifolia, T. & J. (W. r.) stem glabrous, panicled above: leaves linear, hirsute, entire: flowers loosely spiked: petals roundish, with short claws: capsules ovate-oblong, narrowing towards each end.

marginata, Lehm. (r.) stem ascending, base suffruticose: leaves lanceolate, repand-dentate, sub-revolute, becoming whitish, with close pressed pubescence on both sides: flowers in terminal spikes, whorls crowded, bracts linear, deciduous: fruit becoming white. R.

glabra, Lehm. (r.) stem ascending, base suffruticose: leaves narrow-lanceolate, undulate, very glabrous: spikes elongated: flowers alternate: bracts linear, persistent: germs linear, 4-angled, glabrous. A.

parviflora, Dg. ( ) stem herbaceous, erect, pilose: leaves oblong, acuminate, remote-toothed, margin ciliate; in the young state somewhat velvety: spikes elongated: flowers minute, crowded: fruit distant, 4-angled, tapering at both ends, somewhat glabrous. 12—18 i. R. A.

Southern.

angustifolia, Mx. (2) (w. Ju. ♃.) leaves clustered, linear, repand, undulate: fruit oblong, 4-angled, acute at each end. K.

coccinea, N. (W. r. ☼. ♃.) silky-pubescent: leaves lance-linear, sub-denticulate: spike crowded: petals as long as the calyx: stigma sub-entire. Var. *integerrima*, stems numerous, hoary-sub-villose, simple: leaves lance-oblong, very entire, acutish, narrow at the base: racemes lax, few-flowered: petals ovate, obtuse, with very narrow claws.

mollis, N. (W.) leaves lanceolate, entire, clothed with soft hairs.

linifolia, N. (W. w.) stem erect, sparingly branched, smooth: leaves smooth, sessile, lance-linear, entire: midrib translucent: spike terminal, crowded, becoming much extended after flowering: fruit triquetrous, shorter than the linear bracts. 3—4 f.

sinuata, N. (W.) branches and leaves with close-pressed hairs; leaves numerous, linear sinuate: flowers long spiked: fruit distant, clavate, 4-sided at the apex, tapering at the base and short pedicelled: angles tumid. Arkansas, and Red River.

5—2. GELSEM'INUM. 47. Apo. acr. stim. r. bit. eme. sud.

Southern.

sempervirens, W. (3) (y. March. ♃.) stem twining, smooth, glabrous: leaves opposite, perennial, lanceolate, entire, dark-green above, paler beneath: petioles short. Var. *inodorum*, has inodorous flowers. Florida. S—C.

Gaura. Gr. *gauros*, pompous or elated, from its rose colored flowers in fine terminal spikes.

Gelseminum. One of the ancient names of the jasmine.

(1) serpyllifolia, Ph. Vaccinium hispidulum, L. Oxycoccus hispidulus, P. Arbutus thymifolia, A. filiformis, Lk. (2) biennis, Wr. (3) Bignonia, W.

16—10. Genista. 93. Leg. nut. asc. ape.

Exotic.

tinctoria, (dyers broom, wood waxen. y. Au. ♃.) leaves lanceolate, glabrous: branches terete, striate, erect, unarmed: legumes glabrous. 1 f. B. Peekskill.

5—2. Gentia'na. 46. Gent. r. ton. bit. ath. *dysp. ast.*

saponaria, (1) (soap gentian. O. b. &. w. S. ♃.) stem terete, glabrous: leaves lance-ovate, 3-nerved: flowers sessile, fascicled, terminal and axillary: corol 5-cleft, bell-ventricose, almost closed at the top: inner folds toothed. 12—18 i. S. Mch.

ochroleuca, Frl. (2) (marsh gentian. W. y. & b. S. ♃.) stem somewhat angled, glabrous: leaves lance-ovate: flowers sessile, fascicled, terminal: corol 5—10 cleft, bell-ventricose; divisions acute: inner folds simple, acute. 1 f. S. Mch.

rubricaulis, Sz. & Keating (W.) stem terete, glabrous, red: leaves lance-oblong, 3-nerved, obtuse: flowers terminal, fascicled, sessile: corol 5-cleft, bell-form, not ventricose; divisions acute, connivent; inner fold 1-toothed. 1 f. K.

pneumonantha, (calathian violet. b. Au. ♃.) stem terete: leaves-linear, obtusish: flowers terminal, fasicled: lateral ones solitary, peduncled: corol 5-cleft, bell-form: divisions roundish; inner folds with one acute tooth. 1 f. S. P. B. Canada.

angustifolia, Mx. (3) (b. O. ♃.) stem simple, slender, 1-flowered: leaves linear and wedge-form, spreading: corol funnel-form, with the alternate divisions lacerate. 1 f. S. Y.

linearis, Frl. (4) (A. b. Au. ♃.) stem somewhat scabrous: leaves lance-linear, undulate, ciliate: flowers sessile, in terminal, crowded fascicles: calyx ciliate: corol bell-form, 5-cleft; divisions obtuse, with the inner folds denticulate. S. P.

quinqueflora, Frl. (5) (O. b. Au. ♂.) stem 4-cornered, branching: leaves half-clasping, oval, acute, 3-nerved: flowers 5-cleft, bell-tubular, with a glabrous throat, terminal and lateral, in threes or fives, sub-pedicelled; divisions lanceolate, acuminate: calyx short. 1 f. S. M. Mch.

crinita, W. (6) (fringed gentian. O. b. S. ♃.) stem terete: branches long, 1-flowered: leaves lanceolate, acute: corol 4-cleft; divisions obovate, gash-ciliate. 18 i. S. M. Mch.

acuta, Mx. (W. A. g. y.) stem 4-angled: leaves somewhat clasping, oblong, very acute: flowers fascicled, terminal and lateral; throat of the corol ciliate. S.

lutea, (yellow gentian. y.) leaves broad-ovate, nerved: corols about 5-cleft, wheel-form, whorled. Y. New Jersey.

Southern.

catesbaei, Wr. (Oc.) rough: leaves narrow-lanceolate: divisions of the calyx lance-linear, twice as long as the tube: corol with the border erect; inner segments short, 2-cleft, fimbriate.

15—10. Gera'nium. 73. Gera. ast. aro.

maculatum, (crow-foot geranium, cranesbill. O. r & b. J. ♃.) erect: pubescence reversed: stem dichotomous: leaves opposite, 3 or 5-parted, gashed; upper ones sessile; peduncles 2-flowered: petals obovate. 1—2 f. S. West Rocky Mts, Mch.

carolinianum, (W. w. r. Ju. ♂.) diffuse, pubescent: leaves opposite, 5-lobed: lobes 3-cleft, gashed; peduncles 2-flowered, sub-fascicled: petals emarginate, equalling in length the awned calyx: carpels villose. 2—12 i. S. Y. C. P. M. R. D. Mch, S—C. K.

pusillum, (small crane's bill. b. M. ☉.) peduncles 2-flowered: flowers pentandrous, with 5 abortive filaments; petals retuse, of the length of the awnless calyx: leaves

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Genista. Lat. *genu*, a knee, in allusion to the bending of the twig; or from Celt. *gen*, a small bush.

Gentiana. After Gentius, king of Illyria, who according to Pliny, first used it for its tonic qualities.

Geranium. Gr. *geranion*, from *geranos*, a crane, the germ and style resembling the head and beak of that bird.

(1) fimbriata, Vahl. (2) saponaria, Wr. villosa, W. (3) purpurea, Wr. (4) puberula, Mx. (5) quinquefolia, L. amarelloides, Mx. (6) fimbriata, Bot. rep.

sub-reniform, 5 to 9-lobed; lobes 2 to 3-parted, wedge-form, divisions acute, sub-toothed: carpels pubescent. Probably synonomous with G. *dissectum*. P. O.

dissectum, W. (wood geranium. r. J. ☉.) spread, hairy: leaves opposite, 5-parted; lobes 3-cleft, gashed, linear; peduncles 2-flowered, long: petals emarginate, the length of the awned calyx: carpels with glandular hairs. 1 f. Y. P. B. C. H. M. F.

robertianum, (herb robert. O. r. J. ♂.) spread hirsute: leaves opposite, ternate and quinate, 3-cleft, pinnatifid: peduncles 2-flowered: petals entire, twice as long as the awned calyx: carpels net-veined. 10—15 i. *S.* Mch.

columbinum, (long stalked geranium. b. M. ♃.) peduncles 2-flowered: longer than the leaves: leaves 5-parted; lobes many-cleft, linear: petals emarginate, of the length of the awned calyx: carpels glabrous. P. Y.

caespitosum, J. (W. r.) somewhat erect, sparingly branched above: radical leaves reniform, deeply 5 to 7-cleft.

albiflorum, Hook. (w.) stem erect, dichotomous, somewhat angled, glabrous below; glandular-pilose above: leaves deeply 5-parted; segments ovate, acuminate, incisely sub-pinnatifid, rather hairy: radical ones on long petioles; the uppermost opposite, on short petioles, 3-parted, rather acuminate: sepals glandular-pilose: petals as well as filaments hirsute at the base. Rocky Mts.

erianthum, Dc. (p.) stem erect, angled, sparingly dichotomous, minutely pubescent or nearly glabrous below: leaves deeply 5 to 7-lobed; lobes 3-cleft; segments laciniate-incised: radical ones on long petioles: the uppermost sub-sessile: peduncles short and crowded: sepals and base of the petals and stamens densely villose. N.W. Coast and Kamschatka.

Exotic.

sanguineum, (bloody geranium. ♃.) peduncles 1-flowered: leaves 5-parted, 3-cleft, orbicular: capsule bristly at the top.

Geranium, PELARGONIUM, ERODIUM.

13—2. GERAR'DIA. 37. Scro. acr. poi. asc. feb—. abs.

1. *Flowers yellow.*

flava, (false foxglove. O. y. Ju. ♃.) pubescent: stem nearly simple: leaves sub-sessile, lanceolate, entire or toothed; lower ones sub-pinnatifid, gashed: flowers axillary, opposite, sub-peduncled. 2—3 f. *S.* Mch.

glauca, Eddy. (1) (oak-leaf foxglove. O. y. Ju. ♃.) glabrous: stem glaucous, panicle-like: leaves petioled, sinuate-pinnatifid, with acute lanceolate divisions; upper leaves lanceolate, entire. 3—5 f. *S.* Mch.

pedicularia, (louse-wort foxglove. W. y. S. ♂.) pubescent, brachiate-panicled: leaves oblong, doubly gash-serrate and pinnatifid: flowers axillary, opposite, pedicelled; divisions of the calyx leafy, gash-toothed. Var. *pectinata*, stem and branches densely pilose: leaves ovate, pectinately sub-bipinnatifid, soft pubescent: calyx hirsute. 2 f. *S.* N. C. D. Y. P. B. O. H. N. Peekskill. Mch.

2. *Flowers purple.*

purpurea, (p. Au. ☉.) stem with opposite branches: leaves linear, slender: flowers axillary, opposite, sub-sessile: segments of the calyx subulate. 12—18 i. *S.* P. Y. C. B. N. F. Mch.

maritima, R. (2) (W. L. p. Ju. ☉.) leaves linear, fleshy, short, obtusish: flowers peduncled: upper segments of the corol ciliate: calyx truncate. 6—12 i. W. D. N. C. Y. F. B.

auriculata, Mx. (3) (W. p. Au. ☉.) nearly simple, rough: leaves lance-ovate, 2-eared at the base, entire: flowers axillary, opposite: leaves and flowers closely sessile. 8 i. *S.* P. Mch.

tenuifolia, W. (4) (W. p. Au. ♂. ☉?) very branching: leaves linear, acute, scabrous: peduncles axillary, longer than the flowers: teeth of the calyx acute. 6—12 i. *S.* P. Y. T. B. O. H. Mch.

Gerardia. In honor of John Gerarde, the old English herbalist, a great cultivator of exotic plants.

(1) quercifolia, Ph. Rhinanthus virginicus, G. heterophylla, M. (2) crinita, Eddy, crassifolia. Var. of purpurea. Ph. (3) Erinus africanus, M. (4) erecta, Vahl.

setacea, Wr. (1) (p. S. ☉.) stem very branching: leaves setaceous, glabrous: flowers scattered, terminal and axillary: peduncles much longer than the leaves. 2 f. *S.* P. S—C.

Southern.

aphylla, N. (p. Ju. ☉.) stem naked, nearly simple, with small, deciduous, opposite, ovate scales: corol longer than the peduncle. 3 f.

plukenetii, (y. S.) stem very branching: leaves setaceous, glabrous: flowers axillary and terminal: peduncles shorter than the leaves: teeth of the calyx setaceous, very short. 2 f.

fasciculata, (L. p. S. ☉.) stem rigid, erect, branching near the summit: leaves opposite, and in threes, sometimes alternate, linear, clustered, very scabrous: peduncles much shorter than the leaves. 3—5 f.

filifolia, N. (p. S.) stem terete, branching: leaves filiform, somewhat clustered, glabrous, alternate: divisions of the calyx acutely toothed: peduncles longer than the leaves.

linifolia, N. (2) (p. S. ♃.) stem terete, virgate: leaves linear, acute, smooth, appressed: calyx truncate, denticulate: corol pubescent without, villous within: peduncles a little shorter than the leaves. 2 f.

cuneifolia, Ph. ( ) branching; branches erect: leaves wedge-form, lanceolate, unequally serrate; upper ones alternate: peduncles axillary, longer than the leaves: calyx 5-parted. Is this a Gerardia? E.

fruticosa, Ph. (W. p. J. ♄.) very branching: leaves lanceolate, serrate, attenuate at the base, sub-petioled: racemes terminal: flowers opposite, bracted. Rocky Mts.

Gerardia, SEYMERIA.

11—12. GE'UM. 92. Rosa. ast. ref. feb.

strictum, W. (3) (upright avens, herb bennet. O. y. J. ♃.) hirsute: leaves all interruptedly pinnate, the odd one largest; leafets ovate, toothed: stipules gashed: the five alternating divisions of the calyx linear, short: flowers erect; petals roundish, longer than the calyx: awns naked, hooked, sometimes hairy, not hooked. 2 f. Mch.

virginianum. (avens: O. w. Ju. ♃.) pubescent: radical and lower cauline leaves ternate, upper ones lanceolate: stipules ovate, sub-entire. flowers erect; petals shorter than the calyx: awns hooked, naked; at the apex twisted, hairy. Var. *trilobum*, has the radical leaves 3-lobed or ternate. 2 f. *S.* Mch.

album, W. (4) (W. w. Ju. ♃.) pubescent: radical leaves pinnate: cauline ones ternate; upper ones simple, 3-cleft: lower stipules gashed: flowers erect; petals of the length of the calyx: awns hooked, naked, hairy at the end. 2 f. *S.* P. B. F. T.

rivale, (purple avens. O. p. M. ♃.) pubescent: stem simple: radical leaves interruptedly pinnate; cauline ones 3-cleft: flowers nodding: petals of the length of the calyx: awns plumose, nakedish above, a little hooked. Excellent tonic. Damp. Mch.

agrimonoides, (w. ♃.) very hirsute: leaves all pinnatifid: lobes sub-equal, unequally gash serrate: stipules ovate, sub-entire: flowers erect; divisions of the calyx sub-equal: petals oval, of the length of the calyx. Penn.

peckii, Ph. (A. y. Ju. ♃.) stem few-flowered: radical leaves reniform, rounded, subtruncate at the base, gash-toothed; petioles very long, sometimes appendaged: petals roundish, longer than the calyx. 4—8 i. White hills.

geniculatum, Mx. (♃.) many-flowered, sub-panicled: cauline leaves sub-sessile, 3-parted: stipules entire: petals wedge-obcordate: awns all over hairy, geniculate in the middle. Canada.

radiatum, Mx. (A. y.) very hirsute: radical leaves pinnate; terminal one large, reniform, with radiating nerves, dentate; stem leaves clasping, gash-lacerate: awns glabrous, simple at the summit. *S.*

Geum. Gr. *guiŏ*, to be proud, from its gaudy appearance; or from *geuo*, to give taste; relating to the aromatic smell of G. urbanum.

(1) erecta, Mx. (2) erecta, Wr.? (3) canadense, Mx. aleppicum, Jn. (4) canadense, Jn. carolinianum, Wr.

ciliatum, Ph. (W. y-p. Ju. ♃.) pubescent: stem simple: leaves a little glabrous, ciliate at the margin: lower ones pinnate, cauline ones pinnatifid, upper ones palmate; divisions linear, gashed: flowers corymbed.

Exotic.

urbanum, (y. M. ♃.) flowers erect, awns hooked, naked: stem erect, branching, hairy: radical leaves pinnatifid in fives: cauline ones palm-ternate; upper ones ovate, 1-lobed: stipules large, sub-orbicular. 12—18 i.

11—5. GILLE'NIA. 92. Rosa. ast. ref. feb.

trifoliata, Mn. (1) (indian physic, bowman's root. W. w. J. ♃.) leaves ternate, lanceolate, serrate, nearly equal: stipules linear, entire: flowers terminal, in loose panicles: calyx bell-tubular. Styles 5. 2 f. *S.* P. Y. O. H. M. Mch.

stipulacea, (2) (W. w. J. ♃.) leaves ternate, lanceolate, gash-serrate, nearly equal: stipules leafy, ovate, gash-toothed: flowers in a lax panicle: calyx bell-form. Styles 5. Var. *incisa*, has ternate leaves, with leafets gash-toothed. 2—3 f. *S.* P.

12—1. GLAU'CIUM. 62. Papa. nar. ano—.

Southern.

luteum, S. (3) (horned poppy. L. y. Ju. ☼.) stem glabrous: cauline leaves clasping, repand: peduncles 1-flowered: silique tuberculate, and a little scabrous.

5—1. GLAUX. 35. Prim. acr. ton—.

maritima, (sea milk-wort. L. r. Ju. ♃.) leaves oblong, smooth: flowers axillary, sessile. 4—5 i. In salt marshes. Harper's ferry. Canada.

13—1. GLE'CHOMA. 42. Labi. stom. ton.

hederacea, (ground ivy, gill over the ground. O. b. & r. M. ♃.) leaves reniform, crenate: stem rooting. Var. *cordata*, leaves cordate. *S.*

20—6. GLEDITS'CHIA. 93. Legu. nut. asc. ape.

triacanthos, (honey-locust. w. J. ♄.) thorn strong, cross-branched: leaves oval, and oblong: legumes very long, compressed. A large tree. One side of the long flat legume contains a sweet pulp. Cultivated. Var. *inermis*, branches unarmed. *S.* T. P. C. D. F. Mch.

Southern.

brachycarpa, Ph. (O. Ju. ♄.) spines thick, short, sub-ternate: leafets oblong, obtuse: legumes short-oblong.

monosperma, W. (swamp-locust. O. Ju. ♄.) branches somewhat spiny: leafets ovate-oblong, acute: legumes oval, mucronate, somewhat 1-seeded.

Glottedium, ROBINIA, SESBANIA.

3—2. GLYCE'RA. 10. Gram. far. ton. fod—.

fluitans, (4) (water fescue. W. Ju. ♃.) panicle one-sided, slightly branched; spikelets linear-terete, appressed, 5 to 12-flowered; florets very obtuse, 7-nerved: leaves long, flat. 2—3 f. *S.* T. Y. P. C. O. H. N. D., Mch.

Gillenia. Gr. *geluo*, to laugh; in allusion to its exhilerating qualities.

Glaucium. Gr. *glaukos*, sea green; from its color.

Glaux. Gr. *glaux*, so called by Dioscorides, from its glaucous color.

Glechoma. Gr. *glechōn*, the herb pennyroyal; others say from *glukus*, sweet; from its taste.

Gleditschia. In honor of Dr. J. G. Gleditsch, a German botanist and author of several botanical works.

Glyceria. Gr. *glukus*, sweet, the seeds being very sweet and called manna seeds in Germany.

(1) Spirea, L. (2) Spirea, stipulata, M. (3) Chelidonium glaucium, W. (4) Festuca, L. Poa, S. Devauxia, Ph.

brevifolia, M. (1) (J. ♃.) panicle simple, elongated, appressed; spikelets linear-terete, 4 to 12-flowered; florets attenuated, acute, indistinctly nerved: leaves short, erect. 18 i. B. O. M.

10—10. Gly'cine. 93. Legu. nut. asc. ape. sug.

Southern.

striata, ( ) stem twining: leafets oblong, very soft downy: raceme of the length of the leaves: legumes very hirsute. Is this species as high north as the Gulf of Mexico?

angulata, D. ( ) stem angled, with the angles hairy: leafets oblong-ovate, obtuse, silky beneath: legumes linear, compressed, hirsute.

Glycine, Phaseolus, Sub. G. Strophostyles, Amphicarpaea, Rhynchosia, Wistaria, and Apios. (2)

16—10. Glycyrrhi'za. 93. Legu. nut. asc. ape. sug.

lepidota, N. (W. w. Ju. ♃.) leafets oblong, acute, silky villose: legumes racemed, oblong, hispid. 3—5 f. R. Hudson's Bay.

glutinosa, N. ( ) leafets oblong and oblong-lanceolate, strigose with scaly glands: stems and calyx pubescent with glandular hairs: spikes pedunculate, much shorter than the leaves: bracts with a long acuminate point: calyx nearly equal. Banks of Lewis's River.

Exotic.

officinalis, (liquorice. ♃.) leaves pinnate, the terminal ones petioled. Root tuberous-cylindric, sweet.

17—2. Gnapha'lium. 55. Inul. ton. sec-stim. feb. sud. f. h. odo.

polyceph'alum, Mx. (3) (sweet-scented life-everlasting. O. y-w. Ju. ☉.) leaves lance-linear, acute, glabrous above, downy beneath: stem panicled, downy: corymbs terminal. 1—2 f. *S.* Mch.

decurrens, Ives, (4) (neglected life-everlasting. O. y-w. Ju. ☉.) leaves lanceolate, broad at the base, acute, decurrent, somewhat seabrous above, tomentose beneath: stem leafy, branched, spreading. 1—3 f. C. V. T.

purpureum, W. (5) (W. p. Ju. ♃.) leaves linear-spatulate, downy beneath: stem erect, simple: flowers sessile, glomerate, terminal and axillary: involucre purple. 6—12 i. *S.* Y. P. C. N. Florida.

luteo-album, L. ( ) leaves sub-amplexicaule, both sides and the stem arachnoid-woolly, lower ones spatulate, upper ones lance-linear, undulate: flowers dense, corymbose-capitate. R. A.

supinum, L. ( ) stem decumbent at the base and branching: fruit-bearing one erect: leaves linear, both sides arachnoid-tomentose: flowers axillary, solitary or racemed: scales of the involucre fuscous at the margin. A.

uliginosum, W. (cudweed, mud-life everlasting. O. w. Ju. ☉.) stem branched, spread woolly: leaves lance-linear, narrowed at both ends, downy: flowers terminal, heaped: involucre brown. Damp. 4—6 i. *S.* Mch.

germanicum, W. (w. Ju. ☉.) stem erect, dichotomous: leaves lance-linear, acute, tomentose: flowers in a globular head, terminal, and lateral. 6—8 i. *S.* P. H. M.

americanum, W. (6) (W. y-w. J. ☉.) herbaceous, erect, branching: leaves obovate-spatulate, pubescent beneath: flowers axillary and terminal, in glomerate spikes. 6—8 i. *S.* P. Y.

sylvaticum, W. (Ju. ♃.) stem erect, simple, downy: flowers in a leafy spike, axillary and terminal: leaves lance-linear, downy. 12 i.

Glycine. Gr. *glukus*, sweet, from the leaves of some species having a sweet taste.
Glycyrrhiza. Gr. *glukus*, sweet, and *riza*, root, from its sweet taste.
Gnaphalium. Gr. *gnaphalon*, cotton or wool, from its soft downy surface.

(1) acutiflora, T. Festuca, M. (2) The old genus Glycine is thus distributed under the sub-divisions of Phaseolus by Elliott and De Candolle. I follow them reluctantly, but not precisely. (3) obtusifolium, Wr. (4) luteo-album? M. (5) hyemale, Wr. (6) spatulatum, Lk. pennsylvanicum, M.

Sub-genus ANTENNARIA, Br. *style very simple or short, bifid.—dicliniate.*

margaritacea, (pearl-flowered life-everlasting. O. y. & w. Ju. ♃.) tall, simple: leaves lance-linear, acute, 3-nerved, sessile, under side and stem woolly: corymb many-flowered: scales of the hemispheric involucre elliptic, obtuse, opaque, white, the outer ones only tomentose at the base. 1—2 f.

dioica, (w. M. ♃.) stoloniferous, creeping: leaves tomentose beneath chiefly: radical ones spatulate, obscurely 3-nerved at the base; cauline ones lance-linear: stem simple: flowers corymbose-capitate, dioecious. Canada. A. R. T. C. N. F. Mch.

racemosa, H. (A.) stoloniferous, creeping: leaves on the upper side and the simple stem glabrous, under side white-tomentose; radical ones ovate-spatulate; cauline ones lance-linear: flowers racemed, dioecious: racemes lax, somewhat compound: scales of the involucre all obtuse, shining, very glabrous. R.

carpatica, Wahl. (1) (A. ♃.) somewhat low, simple, woolly: leaves lanceolate, 3-nerved, inferior ones petioled: corymb capitate, few-(6—8)-flowered: involucre turbinate, woolly beneath; scales obtuse, shining, becoming fuscous; upper ones elongated, apexes white, becoming opake. Canada. R.

alpina, ( ) stoloniferous, short, sub-erect: leaves white-tomentose beneath chiefly: radical ones spatulate; cauline ones linear: corymb capitate: interior scales of the involucre acute, membranaceous, becoming fuscous, shining. R. A.

Gomphocarpus, ACERATES, ASCLEPIAS.

5—1. GOMPHRE'NA. 30. Amar. cat. r. ton.

Exotic.

globosa, (globe amaranth, bachelor's button. r. Au. ☉.) stem erect: leaves lance-ovate: heads solitary: peduncles 2-leaved.

Gomphrena, ACHYRANTHES.

Gonolobium, GONOLOBUS.

18—5. GONOLOBUS. 47. Ascl. acr. stim. eme. sud.

obliquus, (false choak-dog. p. J. ♃.) stem twining, hirsute: leaves heart-ovate, acute: corymbs axillary: segments of the corol ovate, acuminate. S. P.

hirsutus, Mx. (2) (W. p. Ju. ♃.) sarments and petioles very hirsute: leaves gradually acuminate, pubescent on both sides: divisions of the corol oval-oblong, obtuse: follicles oblong, muricate. Charleston, S—C.

Southern.

macrophyllus, Mx. (W. y. Ju.) leaves broad, cordate, with the sinus closed, abruptly acuminate: follicles muricate: lobes of the crown divided. Charleston, S—C.

prostratus, (p.) stem prostrate, herbaceous: leaves reniform-cordate, acute, tomentose beneath.

viridiflorus, N. (W. g.) smooth, twining: leaves sub-reniform-cordate, auricled at the base, acuminate, somewhat long-peduncled: divisions of the corol oblong-linear, oblique, obtuse: follicles ribbed.

18—1. GOODYE'RA, Br. (3) 21. Orch. aro. vis.

pubescens, W. (rattle snake leaf, scrofula weed, adders' violet. O. y. w. Ju. ♃.) leaves radical, ovate, petioled; veins colored, reticulate: scape sheathed: scape and flowers pubescent: lip ovate-acuminate: petals ovate. 10—15 i. S.

repens, W. (A. w. Ju. ♃.) radical leaves ovate, petioled, reticulate: scape sheathed: scape and flowers pubescent: flowers one-sided: lip and petals lanceolate. 8 i. C. B.

Gomphrena. From Gromphrena, a name applied by the ancients.

Gonolobus. Gr. *gonia*, an angle, and *lobos*, a pod, alluding to the ribs or angles on the legume.

Goodyera. In honor of John Goodyer, a Hampshire botanist, celebrated in Gerarde's Herbal.

(1) G. alpinum, W. (2) carolinensis, E. Cynanchum carolinense, W.
(3) Neottia, W.

15—12. Gordo′nia. 70. Tern. stom. ton. ref.

Southern.

lasianthus, W. (holly-bay. Ju. w. ♄.) leaves lance-oblong, very glabrous, shining, coriaceous: flowers long-peduncled: capsules conical, acuminate. Charleston, S—C.

pubescens, W. (w. M. ♄.) leaves wedge-lanceolate, serrulate, pubescent beneath, deciduous: capsules spherical.

15—13. Gossy′pium. 74. Malv. muc.

Exotic.

herbaceum, (cotton. Au. ♂.) leaves 5-lobed, mucronate, one gland beneath: stem herbaceous, smooth. 5 f.

2—1. Grati′ola. 37. Scro. acr. poi. asc.

carolinensis, Ph. (1) (w. Ju. ♃.) stem smooth, somewhat branched. procumbent at the base, 4-sided above, terete below: leaves sessile, lance-oblong, obtusish, dentate, 3-nerved: peduncles pubescent, short: divisions of the calyx lance-linear, equal, entire: bracts broader. expanding: corol pubescent within: sterile filaments none: capsule globose. Le Conte. *S.*

virginica, Ph. (2) (creeping hedge hyssop. W. w. & y. ♃.) stem more or less pubescent, branching at the base, assurgent, terete: leaves smooth, sessile, lanceolate, obtusish, dentate above, attenuate below: peduncles long, setaceous, pubescent: divisions of the calyx equal, lanceolate, obtuse: bracts broader: corol pubescent within: capsule ovate, acutish: sterile filaments none. Le Conte. 6—8 i. *S.* C. N. F. T.

au′rea, M. (hedge hyssop. W. y. Jo. ♃.) smooth: stem 4-angled, repent at the base, branching: leaves sessile, lance-oblong, punctate, dentate or very entire, acute or obtusish: peduncles long, setaceous, pubescent: divisions of the calyx equal, linear: bracts linear, expanding: corol pubescent within: capsule ovate rather acute: sterile filaments 2, minute. Le Conte. 4—8 i. *S.* T.

anagalloidea. Mx. (3) (water hedge hyssop. w-b. Ju. ♃.) sub-erect, very smooth: stem 4-sided: leaves oblong-oval, sparingly denticulate, shorter than the flowers: calyx without bracts, subulate, pubescent: corol smooth within; divisions generally obtuse. *S.* 3—6 i. S—C.

Southern.

viscosa, Sz. (4) (w-p. Ap. ♃.) stem assurgent, viscid-pubescent, sub-terete: leaves smooth, sessile, lance-ovate, acutish, dentate, 3-nerved: peduncles long: divisions of the calyx equal, lance linear: bracts broader, expanding, shorter than the calyx: corol pubescent within: sterile filaments two: capsules ovate, as long as the calyx. Le Conte.

quadridentata, Mx. (5) (w. Ju. ☉.) smoothish: stem terete, procumbent, sometimes viscous: leaves sessile, lanceolate, acute, sub-punctate, 4-toothed; two anterior teeth longest: divisions of the calyx unequal, linear: bracts small, only on the flowers that first appear: (later flowers without:) corol pubescent within: sterile filaments 2, small: capsule ovate, acute, shorter than the calyx. Le Conte.

pilosa, Mx. (6) (w. Ju. ☉.) erect, branching, very hairy; stem 4-sided: leaves sessile, ovate, dentate: flowers sub-peduncled: divisions of the calyx unequal; two intermediate ones small, setaceous: corol smooth within: sterile filaments 2, very minute. Le Conte. 1—2 f. S—C.

missouriana, Bk. (W. J. y. ♃.) erect, terete, nearly simple: leaves narrow, lanceolate, connate, opposite, toothed at the apex; peduncles longer than the leaves: seg-

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Gordonia. In honor of James Gordon, an eminent cultivator of many new plants near London.

Gossypium. Of Egyptian origin, from *gotne*, whence gottipium, the name of the cotton plant.

Gratiola. Lat. *gratia*, grace or favor, on account of its supposed medical qualities.

(1) virginiana, and acuminata, Wr. sphaerocarpa, and megalocarpa, E. officinalis, Mx. (2) officinalis, Mx. (3) tetragona, E? Lindernia pyxidaria, Ph. &c. (4) virginica, E. (5) ramosa, Wr. (6) peruviana, Wr.

ments of the calyx linear-lanceolate, more than half as long as the tube of the corol bracts longer than the calyx: whole plant viscid, pubescent. 4—6 i.

floridana, N. (y. Mar. ☉.) glabrous, erect: leaves lanceolate, obsoletely denticulate, acutish: peduncle longer than the leaf: flowers largish, divisions emarginate. 9 i.

Grindelia, Donia.

2—1. Gymnandra. 37. Scro cat. asc.

[See p. 34, where this reference is made.]

Calyx 2-parted, spathaceus, or 0: superior lip of the corol entire; inferior one 2—3-parted: stamens 2, exsert: capsule 2-celled; cells one-seeded.

bullii, Ea.* villose: stem naked above: radical leaves petioled, cordate, oblong, crenate; coriaceous cauline ones sessile, lanceolate, erose-denticulate: flowers spiked; on short bracted pedicels. 15 i. Prairies of Mch. Is Hk's spec. a var. of this?

20—10. Gymnocla'dus. 99.

canadensis, W. (W. w. J. ♄.) leaves bipinnate; leafets oval, acuminate, pubescent. *S.* O. Banks of Seneca Lake.

3—2. Gymnopo'gon. 10. Gram. far. ton.

racemosum. Ph. (1) (Au. ♃.) spikes panicled: flower solitary, remote: the exterior palea awned at its summit; the interior at its base. Sand. 18 i.

17—4. Gymnosty'les. 55. Inul. ton. sec-stim. r. exp.

Southern.

stolonifera, P. (2) (M. ♃.) herbaceous, procumbent, creeping, glabrous: leaves pinnatifid: flowers sessile at the root.

6—1. Gynandropsis. 64. Capp. ton. ath.

pentaphylla, Dc. (w. Ju. ☉.) smooth: leaves quinate and ternate; leafets entire, subserrulate: stamens inserted on the pedicel of the germ. 2 f. S. P.

Gynandropsis, Cleome.

6—3. Gyro'mia. N. 12. Smil. diu. dem.

virginica, (3) (Indian cucumber. O. y. g. M. ♃.) several leaves in a whorl near the middle of the stem and 3 in a whorl at the top, lance-oval, acuminate: pedicels aggregated, terminal. Root white, edible. 12—18 i. *S.* Mch.

H.

18—1. Habena'ria. W. (4) 21. Orch. nut. emo.

ciliaris, (orchis. O. y. Ju. ♃.) lip lance-oblong, pinnate-ciliate, twice as long as the petals: spur longer than the germ. 1—2 f. *S.* Mch.

blephariglottis, W. (w. Ju. ♃.) lip lanceolate, ciliate, of the length of the upper petal; spur longer than the germ. Resembles the last. 18 i. *S.* T. Y. B. N.

Gymnandra. Gr. *gumnos*, naked, *andros*, (of *aner*) stamen (man.)

Gymnocladus. Gr. *gumnos*, naked, and *kladus*, slender branch, in allusion to the naked appearance of its strange rigid shoots in winter.

Gymnopogon. Gr. *gumnos*, naked, and *pogon*, beard, from the awn of the corol.

Gymnostyles. Gr. *gumnos*, naked, and *stulos*, style, from the long, permanent, naked style.

Gynandropsis. Gr. *gune*, pistil, *andros*, stamen, *opsis*, appearance; having the appearance of the class Gynandria.

Gyromia. Gr. *guros*, a whorl, alluding to the whorls of leaves on the plant.

Habenaria. Lat. *habena*, a thong or lash, on account of the long narrow strips of the lips of the corol.

(1) Andropogon ambiguum, Mx. Anthopogon lepturoides, N. (2) Hippia, P. (3) Medeola, L. &c. (4) Orchis, L.

*To Mr. Geo. Bull, Ast. Bot. to Mich. Commission.

cristata, Mx. (y. J. ♃.) lip oblong, pinnate-ciliate; petals round, 2 lateral ones toothed; spur shorter than the germ. *S.* P. Y.

psycho'des, W. (1) (y. J. ♃.) lip 3-parted, divisions capillary-many-cleft: petals obtuse; spur filiform-clavate, ascending, of the length of the germ. C. Y. P. T. B. Mch.

integra, (y. Ju. ♃.) lip oblong, entire, longer than the inner petals; spur longer than the germ, acute at the point: stem leafy; bracts shorter than the flowers.

huronensis, N. (W. g-w Au. ♃.) lip lanceolate, acuminate, entire, incurved; petals subulate, connivent; spur about the length of the lip, incurved; petals flat: stem leafy. 1—2 f. Mch.

fuscescens, W. (p-y. Ju. ♃.) lip ovate, toothed at the base: petals spreading; spur subulate, of the length of the germ: bracts longer than the flowers. *S.* C.

herbiola, Br. (y. J. ♃.) lip oblong, obtuse, toothed at the base; palate 1-toothed: spur filiform, shorter than the germ: bracts longer than the flowers. 1 f. F. P. N. T. Mch.

bracteata, W. (2) (vegetable satyr. g-w. M. ♃.) lip linear, emarginate, obtusely 3-toothed; spur short, sub-inflated, somewhat 2-lobed: bracts twice as long as the flowers, leaf-like, spreading: roots palmate. 6—10 i. *S.* O. F. P. T. N. Mch.

fimbriata, W. (O. p. Ju. ♃.) lips 3-parted; divisions wedge-form, ciliate, fringed; lateral petals ovate, toothed; spur filiform, clavate, longer than the germ. 2 f. Mch.

grandiflora, Bw. (3) (p. J.) lip dependent, twice as long as the petals, 3-parted: divisions wedge-form, fringed; middle one largest, with connivent fimbria; lateral petals fimbriate; spur ascending, clavate, longer than the germ: leaves oval-oblong. 2 f. N. Mch.

incisa, W. (w-p. Ju. ♃.) lip 3-parted; divisions wedge-form, gash toothed, middle one emarginate; lateral petals obtuse, sub-dentate; spur subulate, ascending, of the length of the germ. 2—4 f. *S.* P. Y. N.

fissa, W. (W. p. Ju. ♃.) lip 3-parted; divisions wedge-form, toothed, intermediate one 2-lobed; spur filiform, clavate, ascending, longer than the germ. Tall. *S.* P. K.

tridentata, W. (4) (W. w. J. ♃.) lip lanceolate, 3-toothed at the apex; petals obtuse; spur filiform, clavate, ascending, longer than the germ. 6—12 i. *S.* C. Y. P. N. Mch.

Southern.

quinquesecta, Mx. (5) (w. S.) lip 3-parted: lateral segments setaceous; inner petals 2-parted; lower segment setaceous, nearly twice as long as the outer petal; spur twice as long as the germ: leaves lance-oval: bracts acuminate. 2 f.

repens, N. (y-g. Au. ♃.) lip 3-parted: lateral segment setaceous; inner petals 2-parted; lower segment setaceous, scarcely longer than the outer petals; horn as long as the germ: leaves narrow, lanceolate: bracts acute.

Habenaria, ORCHIS.

15—12. HALE'SIA. 71. Styr. stom. aro. ast.

Southern.

tetraptera, W. (snow-drop tree. O. w. Ap. ♄.) leaves lance-oval, acuminate, serrulate: corol 4-cleft: flowers dodecandrous: fruit equally 4-winged. Charleston, S—C. Florida.

diptera, W. (w. Ap. ♄.) leaves lance-oval and ovate, acuminate, serrulate: petals 4: flowers octandrous: fruit compressed, with two large wings. Florida.

parviflora, Mx. (♄.) fruit unequally and somewhat 4-winged, clavate, small: flowers small.

4—2. HAMAME'LIS. 78. Hama. ton.

virginica, W. (witch hazel. O. y. Oc. ♄.) leaves obovate, acute, toothed, cordate, with a small sinus. Var. *parvifolia*. (A.) leaves oblong-ovate, upper part undulate-

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Halesia. In honor of Dr. S. Hales, the eminent physiologist.

Hamamelis. Gr. *amamēlis*, from *ama*, accompanying, and *mēlea*, apple tree; applied, it is thought, because the apple in fruit accompanies this flower.

(1) lacera, Mx. (2) Satyrium, P. (3) Orchis, Bw. (4) Orchis clavellata, Mx. (5) michauxii, N. Orchis Mx.

coarse-crenate, pubescent and somewhat hirsute beneath: divisions of the calyx oblong. Flowers in the fall, and perfects the fruit the next summer. 5—15 f. *S.* Mch.

Southern.

macrophylla, Ph. (♄.) leaves roundish, cordate, coarsely and obtusely toothed, scabrous and punctate beneath. A doubtful species.

20—5. Hamilto'nia. 25. Santa. nut. sed.

oleifera, W. (1) (american oil-nut. A. g-y. J. ♄.) pubescent: leaves oblong, entire, acuminate: flowers in terminal racemes. Flowers small. 4—6 f. *S.* C.

Hapalostemium, *Harpalya*, Hieracium.

Harpalyce, Prenanthes.

13—1. Hedeo'ma. (2) 42. Labi. stom ton. fra.

pulegioi'des, (penny-royal. O. b. J. ☉.) pubescent: leaves oblong, serrate: peduncles axillary, whorled. 6—8 i. *S.* Mch.

glabra, P. (3) (W. r-p. Au. ♃.) smooth: stem surculose: radical leaves nearly oval; cauline ones oblong-linear, all entire: flowers axillary, mostly solitary, long-peduncled. 6—12 i. *S.* F. D. Niagara Falls. Mch.

Southern.

hispida, Ph. (4) (W. Ju. ☉.) branching, pubescent: leaves linear, acutish at both ends, very entire, veined, revolute at the margin: whorls many-flowered: calyx strigose. 3—6 i.

bracteolata, N. pubescent: stem simple, slender: leaves linear, sub-lanceolate, acute at each end, entire: pedicels 3—5-flowered: bracts setaceous.

5—1. He'dera. 58. Capr. ast. fra.

Exotic.

helix, (english ivy. g-w. S. ♄.) leaves 3 or 5-lobed; floral ones ovate: umbel erect.

Hedera, Ampelopsis.

Hedychloa, Kyllingia.

4—1. Hedyo'tis. 57. Cinc. feb+. ton. ast.

glomerata, Mx. (5) (creeping green head. w-g. M. ☉.) stem assurgent: leaves lanceolate, pubescent, attenuate at the base: flowers fascicled, axillary and terminal. *S.* W. Y. S—C.

Southern.

lanceolata, Dc. (6) glabrous: stem erect, 4-sided, angles somewhat winged: leaves sessile, lanceolate, acute: stipules lanceolate, membranaceous: corymbs trichotomous, terminal: corols funnel-form, with exsert anthers. Carolina.

16—10. Hedysa'rum. 93. Legu. nut. asc. ape.

canadense, (bush trefoil. O. r. Ju. ♃.) erect, smoothish: leaves ternate, lance-oblong: stipules filiform: flowers racemed: bracts lance-ovate, acuminate, ciliate: joints of the loment obtusely triangled, hispid. 3 f. *S.* Mch.

Hamiltonia. Dedicated by Muhlenberg, to Mr. Hamilton, an American patron of botany.

Hedeoma. Gr. *edus*, *edeos*, eatable, perhaps so called from its fragrance.

Hedera. Said to be from *hædus*, a kid; being given to increase the milk of goats.

Hedyotis. Gr. *edus*, sweet, and *ous (otos)* the ear; said to cure deafness.

Hedysarum. Uncertain: supposed from *ēdus*, sweet, and *aroma*, fragrance, applied to the flowers of some species.

(1) Pyrularia pubera, Mx. (2) Cunila, L. (3) Cunila glabella, Mx. (4) hirta, N. (5) Oldenlandia, Mx. (6) Anotis, Dc.

canescens, W. (r-b. Au. ♃.) erect, pilose: stem angled, ciliate, hispid: leaves ternate, roundish, with close-pressed hairs beneath: stipules ovate, acuminate: racemes panicled: bracts cordate: joints of the loment triangular, hispid. *S.* P. Y. Mch.

marylandicum, W. (W. p. Ju. ♃.) erect, branching, pilose: leaves ternate, oblong, villose beneath: stipules subulate: racemes panicled: loment 3-jointed; the joints rhomboid, reticulate, a little hairy. *S.* P. Y. O. T. Mch.

ciliare, W. (O. p. Au. ♃.) erect, sub-pubescent: leaves ternate, ovate, short-petioled, pubescent beneath, margin ciliate: stipules filiform: panicle terminal: joints of the loment (2 or 3) half orbicular, hispid, reticulate. Var. *oblongifolium*, E. leaves longer, nearly glabrous, sub-glaucous beneath, long-petioled. 2 f. *S.* Mch.

viridiflorum, L. not Ph. (g. & p. J. ♃., erect: leaves ternate, ovate, obtuse, scabrous on the upper surface, soft-villose beneath, panicle terminal, long, naked: joints of the loment triangular. E. 3—4 f. *S.* Y. M. N. D. P. C. F. T.

aikini, Ea. (1) (W. g. & p. Au. ♃.) erect: branching, pubescent: leaves ternate, ovate-oblong and sub-deltoid, acute-mucronate, scabrous beneath: stipules cuspidate: racemes panicled, bracted. Flowers become greenish in full maturity. 3 f. Very abundant on the islands about Troy, N. Y.

obtusum, W. (W. p. & g. Au. ♃.) erect, slender, sub-pubescent: leaves ternate, ovate, obtuse, sub-cordate at the base: stipules subulate: panicle terminal: joints of the loment sub-orbiculate, reticulate, hispid. 1—2 f. *S.* P. Y. N. M. T. Mch.

humifusum, M. (p. Au. ♃.) stem prostrate, sub-glabrous: leaves ternate; leafets ovate or oval, acutish, slightly hairy: racemes elongated: joints of the loment sub-rhomboidal, hispid. B.

rotundifolium, Mx. (W. p. Au. ♃.) prostrate, hirsute: leaves ternate, orbicular, pilose both sides: stipules round-cordate, reflexed: racemes axillary, and in the terminal panicles few-flowered: joints of the loment sub-rhombic, reticulate-scabrous. 2—3 f. *S.* T. N. Mch.

paniculatum, W. (W. p. Ju. ♃.) erect: leaves ternate, lance-linear, smoothish, revolute at the margin: stipules subulate: panicle terminal: loment hispid: joints somewhat triangular. 2—3 f. *S.* B. O. H. M. F. C. P. N. T. Mch.

strictum, Ph. (W. p. Ju. ♃.) stiffly erect, glabrous, simple: leaves ternate, sub-linear, net-veined: stipules subulate: racemes axillary and terminal: loments about 2-jointed; joints lunate-triangular, hispid. 2—3 f. *S.* Mch.

laevigatum, N. (W. p. Au. ♃.) very smooth: stem simple, erect, sub-glaucous: leaves ternate, long-petioled; leafets ovate, acute: stipules subulate, minute, caducous: panicle terminal, sub-simple: flowers in pairs on long peduncles: bracts ovate, acute, shorter than the flower-buds: joints of the loment triangular, hispid. *S.* Y. Mch.

nudiflorum, (W. p. Ju. ♃.) leaves ternate, broad-oval, acuminate, sub-glaucous beneath: scape panicled, glabrous, radical, taller than the stem: joints of the loment round-triangular. 1—2 f. *S.* Y. B. O. N. C. P. Mch.

acuminatum, Mx. (O. p. Ju. ♃.) erect, simple, pubescent, leafy at the summit: leaves ternate, ovate, long-acuminate, with scattered hairs on both sides, close-pressed, long-petioled; the odd leafet round-rhomboid: panicle long-peduncled, terminal. 1—2 f. *S.* Mch.

bracteo'sum, Mx. (2) (r. Au. ♃.) erect, glabrous: leaves ternate, oblong-oval, acuminate: stipules subulate: racemes terminal, with scattered flowers: bracts ovate, acuminate, striate, glabrous: joints of the loment sub-oval. 3—5 f. *S.* N. T. Mch.

alpinum, Var. *americanum*, Mx. (3) (W. A. p. ♃.) erect: leaves pinnate: leafets oval-oblong, hairy: stipules partly sheathing: joints of the loment roundish. *S.* R. Canada.

glabellum, Mx. (W. p. Ju. ♃.) erect, glabrous: leaves ternate, ovate-obtuse, sub-glaucous beneath: stipules small, subulate: panicle terminal: joints of the loment rhomb-triangular. 2 f. *S.* D. C.

pauciflorum, N. (W. w, ♃.) decumbent: stem filiform: leaves ternate, long-petioled; leafets broad-ovate, acuminate, pubescent-ciliate; terminal one broad-rhomboid:

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(1) viridiflorum, Ph. not Lin. See Elliott. Vol. II. p. 217. As the viridiflorum of Linneus is retained by Elliott and Torrey, and as we certainly have Pursh's plant in abundance, it becomes necessay to give the latter a new name. I have given this name as an expression of my esteem for Dr. William Aikin, a most indefatigable and very accurate young botanist. (2) cuspidatum, W. (3) boreale, N?

stipules obsolete: raceme terminal, peduncled, shorter than the leaves, very few-(4—8) flowered. Canada.

mackenzii, R. ( ) caulescent, decumbent: leaves pinnate; leafets oblong, both sides becoming whitish pilose: stipules sheathing: joints of the loment transversely rugose, pilose. A.

Southern.

lineatum, Mx. (♃.) stem creeping, striped with green: leaves ternate, roundish, sub-sessile: racemes long, with small scattered flowers: joints of the loment lenticular.

rigidum, E. (W. p. Au. ♃.) erect, very branching: leaves oblong-ovate, obtuse, reticulate, pubescent: panicle branching: bracts lance-ovate, acuminate. 3 f. S—C.

rhombifolium, E. (p. S. ♃.) pubescent: leaves ternate, rhomboid, obtuse, thick, reticulate, rugose: panicle compound: bracts small: loment 1—3-jointed; joints roundish, veined. 2—3 f.

scaberrimum, E. (p. Ju. ♃.) erect, very scabrous: leaves ternate, ovate, tapering towards the apex, acute, pilose-pubescent: stipules ovate, acuminate, persistent: panicle terminal: joints of the loment somewhat triangular, very hispid. 3—4 f. K.

Hedysarum, LESPEDEZA.

17—2. HELE'NIUM. 55. Heli. ton. sec-stim. feb. s. ole.

autumnale, (false sunflower. O. y. Au. ♃.) leaves lanceolate, serrate, sub-decurrent: stem corymbed above: disk florets 5-cleft; rays flat, reflexed. Var. *pubescens*, leaves pubescent. 3—5 f. S. Mch.

canaliculatum, Lk. leaves lanceolate, serrate, sub-decurrent: stem simple: disk florets 5-cleft: ray-florets channelled.

quadridentatum, Mx. (O. Ju. ♃.) leaves broad-decurrent; lower ones sub-pinnatifid; upper ones lanceolate, entire, glabrous: disk florets 4-toothed. 3—4 f. La. S—C.

tenuifolium, N. (W. y. ♃.) leaves very long and narrow-linear: branches 1-flowered: egret very long, acuminate, bearded: stem low, naked. 9 i. Alabama, Mississippi. La.

12—1. HELIANTHEMUM. (1) 80. Cist. exp. ton. stim. *cat.*

canadense, Mx. (rock-rose, frost plant. O. y. J. ♃.) without stipules, erect: leaves alternate, erect, linear-lanceolate flat, tomentose beneath: racemes terminal, few-flowered: divisions of the calyx broad-ovate, acuminate: capsules shorter than the calyx. At the foot of the Pine-rock, New Haven, the barren plains produce great quantities of this plant. In November and December of 1816, I saw hundreds of these plants sending out broad, thin, curved ice crystals, about an inch in breadth, from near the roots. These were melted away by day and renewed every morning for more than 25 days in succession. 6—14 i. S. Mich. Cistus canadensis W.

corymbosum, Mx. (J. ♃.) without stipules, erect, ramose, minutely pubescent: leaves alternate, lanceolate, whitish downy beneath: corymb fastigiate, with numerous crowded flowers: divisions of the calyx ovate, acute: capsule longer than the calyx. 12 i. S. Y. W. N. Cistus corymbosum, Mx.

Southern.

carolinianum, Mx. (J. ♃.) without stipules, hirsute, erect: leaves alternate, oblong-oval, sub-denticulate; bottom ones obovate, hirsute on both sides: peduncles few, terminal, with the calyx very villose: divisions of the calyx oblong, acute, shorter than the petals. Cistus carolinianum, Mx.

polifolium, T. (Ju. Au.) primary or petaliferous flowers terminating the stem and the numerous short branches, on filiform peduncles, many times longer than the flower, the broadly cuneiform petals a little exceeding the calyx: secondary flowers very small, apetalous, 3 to 6-androus, clustered in lateral cymules on the foliferous branches, at first glomerate and nearly sessile, at length on pedicels as long as the

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Helenium. From Helen, the wife of Menelans, who is said to have used it as a cosmetic.

Helianthemum.
(1) Cistus.

calyx: leaves linear or linear-oblong, with revolute margins, beneath tomentose-canescent. Texas.

scoparium, N. (y.) slightly pubescent, decumbent and much branched below: flowers paniculate-racemose: sepals ovate, acuminate, the outer ones minute and subulate: petals 5, cuneate-oblong, longer than the calyx: capsules about 6-seeded: leaves scattered, linear-subulate, exstipulate. California.

17—3. Helian'thus. 55. Heli. ton. sec. stim. s. ole+.

1. *Leaves opposite.*

atrorubens, W. (W. y. & p. Au. ♃.) hispid: stem nakedish above, lax-panicled: leaves spatulate, ovate, crenate, 3-nerved, scabrous above: scales of the involucre lance-ovate, of the length of the disk. 3—4 f. *S.* P.

divaricatus, (y. Au. ♃.) stem glabrous, very branching: leaves nearly opposite, sessile, lance-ovate, 3-nerved, scabrous above, smooth beneath: panicle trichotomous, slender, few-flowered. 5—6 f. *S.* T. Y. P. B. C. O. N. F.

frondosus, W. (W. y. Ju. ♃.) stem smooth below: leaves lance-ovate, remotely and acutely serrate, scabrous above, paler and sub-scabrous beneath, 3-nerved: peduncles scabrous: petiole ciliate: involucre squarrose, undulate, leafy, ciliate: rays 8-flowered. 4—5 f. T. Y. P. N. Canada. Mch.

trachelifolius, W. (1) (W. y. Au. ♃.) leaves short-peticled, lance-ovate, coarse-serrate, acuminate, 3-nerved, scabrous above, rough-haired beneath. scales of the involucre lanceolate, acute, ciliate, pubescent, spreading at the tips: rays numerous. 2—4 f. *S.* T. Y. P. V. W. C. N. F. Mch.

hispidulus, E. (W. y. S. ♃.) stems scabrous: leaves sessile, lance-ovate, tapering towards the summit, serrulate, scabrous above, paler and slightly hispid beneath: scales of the involucre lance-ovate, ciliate: chaff 3-toothed. 3—4 f. *S.* D.

heterophyllus, N. (y. ♃.) stem 1-flowered, slender: leaves pilose-hirsute, mostly opposite; radical ones oblong-elliptic; upper ones lance-linear, all entire: scales of the involucre lanceolate, acuminate. 1—3 f. Alabama. Mch.

2. *Upper leaves alternate.*

angustifolius, W. (2) (y. & p. O. ♃.) stem slender, slightly scabrous: leaves narrow-lanceolate, revolute at the margin, scabrous, entire, glaucous beneath: scales of the involucre lance-linear, ciliate, expanding: chaff 3-toothed. 3—5 f. *S.* Y. C.

mollis, W. (y. Ju. ♃.) stem smooth below, scabrous above: leaves lance-ovate, acute, serrate, scabrous above, pubescent and hoary beneath: flowers few, terminal. 3—6 f. *S.* F. P N.

strumosus, W. (W y. ♃.) leaves ovate, acuminate, serrate, 3-nerved, scabrous beneath: scales of the involucre lance-linear, ciliate at the base. T. O.

altissimus, W. (W. y. Au. ♃.) leaves alternate, lance-ovate, serrate, scabrous, 3-nerved, slender at the apex, with ciliate petioles: scales of the involucre lanceolate, ciliate. Chaff on the receptacle green: stem purple. 4—8 f. *S.* T. H. M. F. N. Mch.

giganteus, W. (W. y. S. ♃.) leaves lanceolate, scabrous, alternate, obscurely 3-nerved, sub-sessile, attenuate at each end, ciliate at the base: scales of the involucre lanceolate, ciliate. Var. *crinitus*, leaves approximate, long lance-linear, acuminate, sub-entire, scabrous, sub-sessile, both sides colored alike: involucre squarrose; segments linear. 5—6 f. *S.* C. F. P.

decapetalus, (W. y. Au. ♃.) leaves ovate, acuminate, remotely serrate, 3-nerved, scabrous, pubescent beneath: scales of the involucre lanceolate, sub-equal, sub-ciliate: rays ten or twelve. 3—4 f. *S.* N. D.

multiflorus, W. (A. S. ♃.) leaves 3-nerved, scabrous: lower ones cordate; upper ones ovate: rays many-flowered: scales of the involucre lanceolate. *S.*

macrophyllus, W. (y. Au. ♃.) leaves ovate, acuminate, 3 nerved, unequally-serrate, scabrous above, white pubescent beneath: scales of the involucre long-linear, spreading, ciliate at the base: chaff pubescent above? *S.* P.

petiolaris, N. (W. y. & p. Au.) leaves alternate, ovate, acute, somewhat entire, very long petioled, scabrous: stem erect, branching: flowers long-peduncled: akenes villose. *S.*

Helianthus. Gr. *ēlion*. the sun, and *anthos*, flower; because it turns with the sun.

(1) gigas, Mx. (2) Rudbeckia, W. in the same work.

lenticularis, Lind. (☉.) leaves ovate, acuminate, coarsely serrate, hispid, three-nerved: peduncles in single heads, equal. A. R.

ballii,* (1) (y.) leaves lance-oblong, obtuse, very longly-attenuated into the petiole: scales of the involucre spreading, broad lanceolate, ciliate: egret with awns solitary, or in twos unequal, strong. R.

Exotic.

tuberosus, (jerusalem artichoke. y. S. ♃.) leaves 3-nerved, scabrous; lower ones heart-ovate; upper ones ovate, acuminate: petioles ciliate. Root tuberous. Naturalized. 4—8 i.

annuus, (common sunflower. y. & w. Ju. ♃.) leaves all cordate, 3-nerved: peduncles thickening upwards: flowers nodding. 6—10 f.

Southern.

1. *Leaves opposite.*

pubescens, W. (2) (W. y. Au. ♃.) hoary-pubescent: stem villose: leaves sessile, heart-ovate, clasping, 3-nerved, crenulate, very soft: scales of the involucre lanceolate, villose. 2—3 f.

longifolius, Ph. (O. y. S. ♃.) very glabrous: stem panicled: branches few-flowered at the summit: leaves sub-sessile, very long-lanceolate, 3-nerved, very entire; lower ones serrate: scales of the involucre ovate, acute; outer ones linear, divaricate. 4—7 f.

sparsifolius, E. (y. & p. Au. ♃.) stem scabrous: branches sub-glabrous: leaves ovate, acute, coarsely toothed, hispid, very scabrous on both sides, abruptly contracted into the petiole: scales of the involucre lance-oval, ciliate. 4—5 f.

truncatus, Sz. (W. y. S. ♃.) stem slender glabrous: leaves ovate, serrate, tapering towards the apex, hairy, scabrous, closely sessile: scales of the involucre lance-ovate, ciliate: chaff lanceolate, ciliate, pubescent. 2 f.

tenuifolius, E. (y. S. ♃.) stem smooth: leaves lance-ovate, acuminate, coarsely serrate, a little scabrous on both sides, long petioled, membranaceous: scales of the involucre lanceolate, ciliate: flowers small. 4 f.

spatulatus, E. (y. S. ♃.) stem scabrous above: leaves spatulate-ovate, sub-acuminate, serrate, scabrous above, pubescent beneath: branches opposite; scales of the involucre lanceolate, hispid: chaff acuminate, entire. 4—6 f.

tricuspis, E. (y. S. ♃.) leaves oblong, lance-ovate, scabrous on both sides: scales of the involucre broad-subulate, ciliate: chaff of the receptacle tricuspidate. 3—4 f.

diversifolius, E. (y. S. ♃.) stem scabrous: lower leaves lance-ovate, acuminate; upper ones heart-ovate, mucronate; all scabrous above, and pubescent beneath: scales of the involucre lanceolate, ciliate: chaff slightly 3-toothed. 3—5 f.

scaber'rimus, E. (W. y. S. ♃.) leaves lanceolate, very scabrous on both sides, nearly entire: scales of the involucre ovate: chaff of the receptacle entire, ciliate on the back. 4—6 f.

tubaeformis, W. (W. ☉.) leaves cordate, wedge-form at the base, villose, 3-nerved: peduncles thickened, hollow.

laetiflorus, P. (♃.) leaves opposite, ovate-oblong, 3-nerved, serrate, rough: peduncles elongated: scales of the involucre lanceolate, erect, ciliate: rays many-flowered, very long.

pauciflorus, N. (W. y.) leaves lance-linear, acuminate, serrate, smoothish: stem naked, trichotomous, few-flowered: involucre close-imbricate: divisions ovate. 4—5 f.

2. *Upper leaves alternate.*

tomento'sus, Mx.? E. (y. S. ♃.) stem rough: leaves lance-ovate, tapering to the summit, acute, serrulate, scabrous above, tomentose beneath, generally alternate: scales of the involucre leafy, squarrose, lanceolate: chaff 3-cleft. 4—6 f.

aristatus, E. (y. S.) stem erect, scabrous: lower leaves opposite, closely sessile, lance-oval, acute, toothed, scabrous, hairy beneath: corymbs few-flowered: akenes compressed: awns 2, persistent. This species appears to be intermediate between Actinomeris and Helianthus, and may belong to a distinct genus. Elliott. 2—3 f.

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(1) longifolius. (2) mollis, Lk. canescens, Mx.

*In honor of John Ball, Esq., a naturalist who travelled beyond the Rocky Mountains.

17—2. Heliop'sis. 55. Heli. ton. sec. stim. feb. sud.

lævis, P. (1) (ox-eye. O. Ju. ♃.) stem glabrous: leaves opposite, ovate, serrate, 3-nerved, smooth beneath. 3—5 f. *S.* Mch.

scabra, Dunham. (W.) leaves shortly petioled, ovate, 3-nerved, deeply serrate, apex very entire, both sides scabrous: involucre pubescent. Red River.

5—1. Heliotro'pium. 43. Helio. ast. ton. tes.

Southern.

indicum, (turnsole. b. Ju. ☉.) leaves heart-ovate, acute, roughish: spikes solitary; fruit bifid. 8—12 i. Florida. S—C.

curassavicum, (O. y. w. J. ☉?) leaves narrow-lanceolate, succulent, glabrous, without veins: spikes conjugate. 6—12. i.

europeum, (w. ☉.) leaves ovate, very entire, tomentose, rugose: spikes conjugate. Inodorous. H. M.

12—12. Hellebo'rus. 61. Ranu. ace. cau. r. poi. cat. ver.

foetidus, (hellebore.) stem many-flowered, leafy: leaves pedate, remotely serrate, coriaceous: corol somewhat converging.

Helleborus, Coptis.

6—3. Helo'nias. 13. Mela. poi. asc. s. acr. ath.

latifolia, Mx. (2) (helonias. p. M. ♃.) scape almost leafless: spike ovate, crowded: bracts lance-linear: leaves lanceolate, mucronate, nerved. *S.* P. Y.

paniculata, N. (J. ♃.) monoecious: scape below leafy, paniculate; above, below the apex, fructiferous: bracts membranaceous, acuminate: petals lance-oblong: stamens exsert; anthers yellow.

erythrosper'ma, Mx. (3) (w. & g. J. ♃.) scape leafy: racemes oblong: bracts short: leaves linear, very long: seed ovate, reddish: capsule shortened with divaricate horns. 2 f. *S.* P. S—C.

angustifolia, Mx. (J. ♃.) scape leafy: leaves linear, subulate: raceme simple, terminal: capsules oblong, covering at the summit: seeds linear. 2 f. *S.* P. Florida.

dioica, Wr. (4) (blazing star, false unicorn root. W. w. J. ♃.) scape leafy: racemes spiked, nodding; pedicels short, sub-bracted: filaments longer than the corol: petals linear: leaves lance-oblong. Generally dioecious. 1—2 f. *S.* P. T. Y. F. C. O. Cattskill, Great Barrington. M. S—C.

Southern.

dubia, Mx. (♃) leaves grass-like, very long and narrow: scape naked: spike slender: flowers small, sessile. 2—3 f.

Helonias, Xerophyllum.

5—2. Helosciadium. 60. Umbc. stom. or nar. if nau.

Southern.

nodiflorum, Dc. (♃.) stem procumbent, striate: leaves gash-pinnate, segments

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Heliopsis. Gr. *ēlion*, the sun, and *opsis*, face, from its yellow rays.

Heliotropium. Gr. *ēlion*, the sun, and *trope*, a turning, because it turns its leaves to the sun.

Helleborus. Gr. *clein*, to cause death, and *bora*, food, on account of its poisonous properties.

Helonias. Derived from *ēlos*, a marsh, where some species grow.

Helosciadium. Gr. *clos*, button, protuberance, *skiados*, shade, pavillion. Sed quere.

(1) Helianthus lævis, L. Rudbeckia oppositifolia, L. in another place. Buphthalmum helianthoides, W. Silphium solidaginoides, L. the last time he notices it. (2) bullata, W. (3) Melanthium luteum, W. phalargioides, Lk. muscaetoxicum, Wr. Anthericum subtriginum, Jn. (4) pumila, Jn. Melanthium dioicum, Wr. densum, Lk. Veratrum luteum, L. It is still placed where Linneus left it by N., but it differs too widely in habit and sensible qualities to remain with the Veratrum viride.

oblong, equally serrate: umbels opposite the leaves, sessile or shortly peduncled: involucre none or few-leaved, deciduous.

leptophyllum, Dc. ( ) described under Æthusa.

californicum, H. ( ) procumbent? leaves pinnate, in 6 to 9-pairs, with an ovate terminal one, acute, gash-serrate: lower ones pinnatifid or pinnate, divisions few: umbels lateral and terminal: involucres and involucels many-leaved: styles elongated. Douglas says the stems are from 2 to 3 feet high—probably not procumbent. R.

6—1. Hemerocal'lis. 14. Lilia. diu. emo.

Exotic.

flava, (yellow day-lily. y. Ju. ♃.) leaves broad linear, keeled: petals flat, acute: nerves of the petals undivided.

fulva, (tawny day-lily. y. Ju. ♃.) leaves linear-lanceolate, keeled: three inner petals obtuse, undulate; outer nerves of the petals branching. Naturalized. 3 f.

japonica, (w. Au.) leaves cordate, acuminate: corol funnel-shaped. Japan.

2—1. Hemian'thus. 37. Scro. acr. poi. asc. cat—.

micrantha, Ph. (1) (w. Au. ☉.) glabrous, succulent: leaves closely sessile, ovate and oval, obtuse, entire, nerved: peduncles shorter than the leaves: calyx 5-cleft: style 2-cleft. *S.* Y.

12—23. Hepat'ica. 61. Ranun. h. ton. deo. *cac.*

acutiloba, Dc. (heart-liverleaf. O. w. & b. Ap. ♃.) leaves cordate, 3 to 5-lobed; lobes entire, acute: sepals acute. Grows in woods, preferring the north side of hills and mountains. This is the Var. *acuta* of the *triloba*, of W. 5 i. Mch.

americana, Dc. (kidney-liverleaf. O. w. & b. Ap. ♃.) leaves heart-reniform, 3-lobed; lobes entire, round-obtuse: sepals obtuse. Grows chiefly in woods, preferring the south side of hills and mountains. This has been mistaken for the *triloba* of W. 5 i. Mch.

The last species has lately come into great repute as a *tonic*, *deobstruent*, and *diuretic*. Prof. Tully believes its powers are exaggerated, and that it cannot be relied on in a dangerous disease, but that it may be considerably useful in moderate complaints. It ought not to be called the Liverwort, as this is the well known name of the Marchantia polymorpha. Its true English name is Liverleaf.

5—2. Herac'leum. 60. Umbe. h. nar. r. poi+.

lanatum, Mx. (master wort, cow parsnip. O. w. J. ♃.) petioles and nerves of the leaves very villose beneath: leafets petioled, broad, round-cordate, sub-palmate-lobed: carpels orbicular. A large umbelliferous plant of a white woolly appearance. Meadows and other damp places. Very poisonous. Mch.

douglassii, Dc. (♃.) leaves below scabrous, also the petioles, above glabrous, gash 3-cleft; segments petioled, cordate, 3 to 5-lobed, acuminate, dentate: leafets of the involucre many, subulate at the apex: fruit obovate glabrous: dorsal leafet elongated, sub-clavate: commisures 2, short, club-form, and 2 others very small, sub-abortive. R.

spondylium, (W. ♂.) leaves pinnate; leafets 5, oblong, pinnatifid, acute, dentate: corol nearly uniform.

13—2. Herpes'tris. (1) 37. Scro. acr. poi. asc. cat+. eme—.

cuneifolia, Mx. (b. Au. ♃.) very glabrous: leaves wedge-obovate, obscurely crenate above: peduncles as long as the leaves, corol 5-cleft. *S.* La.

Hemerocallis. Gr. *ēmera*, a day, and *kallos*, beauty; applied with singular propriety to the beauty and short duration of the flower.

Hemianthus. Gr. *emisus*, half, and *anthos*, flower, from their form.

Hepatica. Gr. *ēpar*, the liver, the leaves having a resemblance to the human liver.

Heracleum. Dedicated to Hercules, who is said to have added a knowledge of Botany to his other exploits. Du.

Herpestis. Gr. *erpestes*, any thing which creeps.

(1) micranhemoides, N. Herpestris, Ph.

Southern.

rotundifolia, Mx. (W. b. Au.) finely pubescent: leaves oval, roundish, many-nerved: peduncles opposite, as long as the leaves: corol 4-cleft.

amplexicaulis, Mx. (2) (Au.) stem woolly: leaves cordate, clasping, entire, obtuse: peduncles shorter than the leaves: corol 4-cleft. Charleston, S. C.

brownei, Ph. (W.) leaves oblong, entire: peduncles longer than the leaves: stem declined.

14—2. HES'PERIS. 63. Cruc. asc. nut—.

pinnatifida, Mx. (wild rocket. W. J. ♂.) leaves sharply serrate; upper ones lanceolate, lower ones pinnatifid: silique sub-peduncled: pedicel at length much longer than the calyx. 1 f. *S.* P. K.

matronalis, (garden rocket, dame violet. W. ♃.) stem simple, erect: leaves ovate, denticulate: petals emarginate, mucronate. Var. *hortensis*. flowers double, odoriferous, white. Said to be a native on Lake Huron. Dr. Todd.

pygmæa, H. (p. ☼.) leaves lance-linear, attenuate at the base, entire or dentate: pubescence 2-parted, appressed: siliques numerous, erect, compressed, pubescent: stem erect, simple. A.

menziesii, H. (♃.) leaves spatulate, fleshy: pubescence 2-parted, appressed: siliques spreading (when young:) stem very short, erect, simple. California. R.

Exotic.

tristis, (yellow rocket, ♂.) stem hispid; branches spreading: leaves lance-ovate: silique sword-form.

3—1. HETERAN'THERA.* 17. Pont. ton—.

reniformis, Mx. (3) (mud-plantain. W. g-w. Ju. ♃.) leaves round-reniform: spathe oblong, acuminate, 2—3-flowered; flowers obscure, scarcely colored. 4—8 i. *S.* Hudson, south bay. T. Y. P. C.

Southern.

ovalis, Mx. (4) (W. b. Ju. ♃.) leaves ovate-oblong: spathe lanceolate, 1-flowered.

5—2. HEUCHE'RA. 84. Saxi. ast.

americana, (5) (alum-root. W. r. Ju. ♃.) viscid-pubescent: scape and leaves roughish: leaves round-lobed, with dilated, obtuse, mucronate teeth: panicle dichotomous: calyx short, obtuse; petals lanceolate, as long as the calyx: stamens exsert. 2—3 f. *S.* F. T. Y. P. C. H. D. Catskill, Mch.

pubescens, Ph. (W. r. & y. J. ♃.) dusty-pubescent: scape glabrous below: leaves sub-acute lobed, toothed, glabrous beneath: peduncles of the panicle short, with crowded flowers: calyx bell-form: petals longer than the calyx, large: stamens scarcely exserted. 2 f. *S.* P. M. Allegany Mts. McNab.

hispida, Ph. (A. p. J. ♃.) hispid scabrous: scape, petioles and leaves, glabrous beneath; leaves hispid-pilose above, acute-lobed, toothed; teeth very short, sub-retuse, mucronate; peduncles of the panicle few-flowered: calyx shortish, sub-acute: petals spatulate, as long as the calyx: stamens exsert.

Hesperis. Gr. *esperos*, the evening; because the flower is more fragrant in this part of the day than in any other.

Heteranthera. Gr. *eteros*, other or different, and *aner*, anther, because the anthers are of different sizes in the same flower.

Heuchera. In honor of J. H. Heucher, Prof. of medicine in Wittenberg, in 1711.

(1) Monniera, Mx. (2) Obolaria caroliniana, Wr. (3) acuta, Vahl. Leptanthus, Mx. virginica, P. (4) limosa, Vahl. Leptanthus, Mx. (5) cortusa, Mx. viscida, Ph.

* See page 36—I there describe this remarkable genus, as intermediate between *triandrous* and *gynandrous*. As I am not a celebrated manufacturer of genera and species, little attention has been given to it. Advocates for truth are very respectfully requested to examine this plant, when in its unostentatious bloom. A. E.

caulescens, Ph. (W. A. w. J. ♃.) suffruticose at the base: scape at the base, and petioles pilose: leaves glabrous above, pilose at the nerves beneath, acutely lobed, ciliate, dentate; teeth acute, mucronate: calyx short, villose: petals linear, twice as long as the calyx: stamens exsert.

bracteata, (W. ♃.) pubescent: scape racemed: leaves heart-orbicular, gash-serrate; teeth mucronate: flowers bracted: petals very narrow, scarcely as long as the calyx: stamens not exsert. R.

acerifolia, R. (W. ♃.) petioles hirsute; leaves smooth, glaucous beneath, acutely 5-lobed, unequally toothed—teeth mucronate: scape smooth: panicle elongated, lax-flowered: petals short: stamens exsert. Kentucky, Maryland.

micrantha, Douglass. (W. ♃.) leaves roundish, cordate, acutely crenate, sub-5-lobed: petioles long, having scattered hairs as well as the base of the stem; cauline leaves gashed: panicle compact: petals lance-linear, entire: stamens exsert.

villosa, Mx. (A. w. J. ♃.) very villose: leaves acutely lobed, toothed: teeth acute, mucronate: fascicles of the panicle, capillary, lax-flowered: calyx short: stamens exsert.

16—12. Hibis'cus. 74. Malv. f. muc. h. dem.

moscheutos, W. (1) (marsh-mallow. W. w. & p. Au. ♃.) leaves ovate, acuminate, serrate, sub-3-lobed, sub-5-nerved, white-downy beneath: peduncles flower-bearing: calyx downy: capsule glabrous. 4—6 f. *S.* Y. Canada. M. S—C. R. B. C. F. Newburg, Salina.

militaris, (2) (W. w-r. Au. ♃.) very glabrous: leaves 3-lobed, hastate, acuminate, serrate: corol tubular, campanulate: capsule ovate, acuminate, glabrous: seeds silky. 3—4 f. *S.* P. S—C.

virginicus, (3) (sweat weed. L. r. Au. ♃.) downy, rough: leaves acuminate, unequally toothed; lower ones cordate, undivided; upper ones cordate-oblong, 3-lobed; peduncles axillary, and in terminal racemes: flowers nodding: pistils nodding. 2—4 f. *S.* P. Y.

Exotic.

phœniceus, (phenicean mallows. r. Ju. ♃.) leaves ovate, acuminate, serrate, and crenate, lower ones 3-cuspidate: peduncles jointed: seeds woolly. 6—8 f,

syriacus, (syrian mallow. w. &. p. Au. ♄.) leaves wedge ovate, 3-lobed, toothed: bracts about 8, of the length of the calyx. 5—10 f.

esculentis, (okra. y. Ju. ☉.) leaves heart-5-lobed, obtusish, toothed: petiole longer than the flower: bracts about 5, caducous, bursting lengthwise. 3 f.

trionum, (bladder ketmia, flower of an hour. ☉.) bracts many; calyx inflated: capsule membranaceous: leaves toothed; upper ones 3 parted. 6—18 i. Mch.

Southern.

grandiflorus, Mx. (W. r. Au. ♃.) leaves large, coriaceous, triangular-cordate, 3-lobed, tomentose on both sides: hoary beneath: capsules tomentose, sub-truncate. 5—7 f.

incanus, W. (y-w. S. ♃.) leaves ovate, acuminate, obtusely serrate, hoary-tomentose on both sides: peduncles axillary: calyx tomentose, nearly equal.

coccineus, Wr. (4) (r. Au. ♃.) very glabrous: leaves palmate-5-parted: divisions lance-linear, acuminate, remotely serrate at the apex: capsule ovate, glabrous. 4—8 f. S—C.

manihot, W. (W. y. & p. Au. ♃.) stem and petioles unarmed: leaves palmate-digitate, 7-parted; divisions linear: peduncles hispid: outer bract 1: calyx torn: capsule very hirsute, pyramidal.

scaber, (5) (y. & p. Au. ♃.) stem scabrous: lower leaves cordate, angled; upper ones palmate, 3—5-lobed; lobes irregular-dentate angled: calyx very hispid, twice as long as the bracts. 3 f.

carolinianus, M. (p. Au. ♃.) leaves cordate, ovate, acuminate, serrate, smooth on both sides, sometimes sub-3-lobed: seeds hispid. 4—6 f.

collinsiana, N. (y.) lowest leaves obtusely 5-lobed; upper ones pedately 5-parted, the lobes linear-lanceolate, acuminate, coarsely toothed; petiole as long as the lamina: flowers on short peduncles: leaves of the involucel 10—12: calyx spathaceous, 5-toothed, cleft on one side. West Florida.

Hibiscus, *ibiskos*: the ancient Greek name of the marsh mallows.

(1) palustris, Wr. (2) virginicus, Wr. hastatus, Mx. riparius, P. (3) clypeatus, Wr. (4) speciosus, A. (5) aculeatus, Wr.

17—1. Hiera´cium. 53. Cich. sec-stim. ano—. ton—.

gracile, H. ( ) scape naked or one-leaved, glabrous: cyme-racemed above, pubescent, and with the involucre black-pilose, sub-glandulous: leaves oblong, obtusish glabrous, attenuated into a longish petiole, membranaceous, entire: flowers small. 12—18 i. R.

albiflorum, H. (w.) stem leafy, with soft reflexed hairs below: leaves broad-lanceolate, entire, obtuse, attenuated into a petiole, with long white hairs: cauline leaves remotish, becoming gradually smaller, sessile: panicle slender, many-flowered, glabrous: petioles divaricate: involucre with scattered long white hairs. R.

scouleri, H. ( ) setose-pilose, hairs long, rigid, spreading, tawny: stem leafy, paniculate: panicle large, many-flowered, erect: leaves broad-lanceolate sub-coriaceous, rigid, acute, scarcely toothed; radical ones attenuated into a short petiole; cauline ones remotish, sessile: involucre fuscous-pubescent, the pubescence intermixed with long glandular hairs. P. R. Mch.

gronovii,* L. (vein-leaf, hawk-weed. O. y. Ju. ♃.) scape leafy, panicled above, glabrous: leaves lance-ovate, sub-pilose, ciliate; midrib villose beneath: pedicels and involucre glandular-pubescent. Var. *venosum*, scape naked: leaves smoothish with colored veins: involucre smooth.

paniculatum. W. (O. y. Ju. ♃.) somewhat glabrous: stem erect, leafy panicled, white-woolly below: pedicels capillary: leaves lanceolate, naked, toothed, membranaceous. 2—4 f. S. Mch.

kalmii, W. (y. Au. ♃.) stem erect, many-flowered, smooth, downy above: leaves sub-sessile, lanceolate, acuminate, sharply toothed outside: peduncles axillary and terminal, downy. B. F. N. T. Mch.

marianum, W. (1) (O. y. Ju. ♃.) stem erect, villose: leaves oval-obovate, strigose, villose on the keel; lower ones sub-dentate: peduncles and involucre downy. 1—2 f. S. Mch.

pusillum., W. (y. Ju. ♃.) small, very villose: stem simple, erect, one-flowered, somewhat 2-leaved: leaves remote, lanceolate, slenderly tapering, acute, entire; cauline ones linear: involucre very villose. Probably a variety of *H. alpinum*. Ph. Labrador.

molle, W. (soft hawk-weed. y. Au. ♃.) pilose: stem erect, simple, leafy, corymbed, few-flowered: leaves lance-oblong, attenuate, sparingly toothed below: radical ones petioled. Labrador.

macrophyllum, Ph. (y. ♃.) very tall: stem erect, leafy, hispid, sulcate: leaves cordate, half-clasping, ovate-oblong, remotely coarse-toothed, nearly naked: nerves and veins pubescent beneath: panicle divaricately corymbed: peduncles elongated, naked, glabrous: involucre glabrous.

sylvaticum, S. ( ) stem leafy, branching above, sub-corymbed, sub-villose: peduncles more or less pubescent: leaves lance-ovate or lanceolate, sub-hirsute, dentate, with the teeth erect: involucre with short pubescence. A var. has the leaves lance-ovate, green, teeth minute. Canada.

prenanthoides, Vill. ( ) stem erect, leafy, pubescent-hirsute: panicle corymbose: pedicels and involucre pilose-glandulous: leaves oblong-cordate, half clasping at the base; upper ones gradually smaller, ovate-cordate all with coarse remote teeth. D. R. A. Canada.

umbellatum, L. ( ) stem erect, simple, very leafy: leaves lance-linear, somewhat glabrous, toothed and very entire: flowers sub-umbelled: peduncles pubescent: involucres glabrous. D. A.

scabriusculum, Sz. & Say. (W. y.) stem glabrous, erect, terete, sulcate, leafy: leaves lance-ovate, sessile, clasping, sub-dentate, scabrous and somewhat involute at the margin, rugose above, glaucous and pilose beneath: involucre smoothish.

Hieracium. Gr. *ierax*, a hawk, from the vulgar opinion that these birds removed films from their eyes with it.

(1) scabrum, Mx.

* Dr. Aikin has written me, after thoroughly studying this and the *venosum*, in numerous localities, that they cannot be retained as distinct species. He proposes the above amendment.

I am not singular in my views. Every old botonist doubts the opinions of all botanists, who decide hastily. Dr. A. is exceedingly cautious; of course I receive his opinions in all cases.

Exotic.

aurantiacum, (orange hawkweed. y. ♃.) scape leafy, hispid: flowers corymbed: peduncles glomerate: leaves oblong, acutish, pilose-hispid.

Southern.

runcinatum, J. (W.) hirsute: leaves radical, oval-oblong, runcinate; scape few-flowered, angular: involucre glandular-pilose. 1 f.

barbatum, N. (W. y. ♃.) very pilose, tall, rigid leaves entire: radical ones cuneate-oblong acutish, upper ones sessile, much smaller, sub-linear: flowers scattered, panicled: branchlets very short, few-flowered: peduncles and involucre pulverulent-tomentose. 3—4 f. Arkansas.

3—2., HIEROCHLO'A. 10. Gram. far. ton.

borealis, Sch. (1) (sweet summer grass, seneca grass. M. ♃.) panicle sub-secund, a little spreading: peduncles smooth: florets unarmed: outer palea ciliate on the margin: root creeping. 18 i. O. P. Y. N. B. D. Seneca Lake. Mch.

alpina, Wahl. (A. J. ♃.) panicle ovate, contracted: spikelets compressed, longer than the branches: glumes lanceolate, nearly nerveless: lateral florets triandrous; one of them with an awn about as long as the valves: sides almost smooth, margins ciliate. 6—8 i. White Mts.

20—8. HIPPOPHAE. 24. Elae. ton.

canadensis, W. (sea buckthorn. M. ♄.) leaves oblong-ovate, glabrous, with scattered stellate pubescence above, stellate, pubescent and scaly beneath: scales ferruginous and deciduous. 6—8 f. P. Y. O. D. Canada, Schoharie. Mch.

argentea, Ph. (W. ♄.) leaves ovate, obtuse, glabrous on both sides and covered with silvery scales. 12—18 f. D.

1—1. HIPPU'RIS. 88. Onag. emo. nau.

vulgaris, (mares tail. W. y-g. M. ♃.) leaves linear and lance-linear, verticillate in 6s, 8s, 9s. *S.* P. T. D. Cayuga Lake, plenty. Near Schenectady, rare. U. Canada. Mch.

montana, (Reichen) ( ) slender: leaves in sixes, linear, acute. A.

maritima, Hel. ( ) leaves in fours or sixes, lanceolate, obtuse scarcely gangrenous. 9—18 i. A.

3—2. HOL'CUS. 10. Gram. far. ton.

latnanus, (soft grass. J. ♃.) panicle equal: florets shorter than the glumes; superior one with a recurved awn: root fibrous. 1—2 f. P. Y. D. Mch.

Holcus, HIEROCHLOA, KOELERIA.

16—10. HOMALOBUS. 93. Legu. asc. ape.

Caulescent.

dispar, N. (J.) decumbent, puberulent: stem somewhat striate, nearly glabrous: leaves almost sessile; leafets 6 to 10 pairs, linear-oblong obtuse: stipules short, ovate, the lower ones united: racemes many-flowered, loose, almost sessile, scarcely longer than the leaves, often 2 or 3 together: bracts minute, shorter than the pedicels: legumes elliptical-oblong. obtuse, flat, somewhat stipitate; the stipe shorter than the calyx. Missouri and West.

Hierochloa. Gr. *ieros*, sacred, and *chloe*, green herb or grass, because in Silesia it is strewed before the church doors, and esteemed sacred to the Virgin Mary.

Hippophæ. Gr. *ippos*, a horse, and *phaó*, to destroy, from the supposed qualities of some of the species.

Hippuris. Gr. *ippos*, a horse, and *oura*, a tail, this genus having a great affinity to the Equisetum.

Holcus. Gr. *olkos*, the Greek name of a plant, with awns like barley.

Homalobus. Gr. *ómolos*, similar, *lobos*, lobe of the ear.

(1) fragrans, Rs. Holcus odoratus, Mx. lanatus, L.

multiflorus, T. (p.) nearly erect, pubescent with appressed hairs or at length nearly glabrous: stem slightly striate: leafets 6 to 10 pairs, oblong or linear-oblong, obtuse: stipules small, ovate, the lower ones united: racemes usually solitary, pedunculate, many-flowered, loose at length, longer than the leaves: bracts very minute, shorter than the pedicels: legumes linear-oblong, acute, flat, stipitate; the stipe longer than the calyx. Missouri.

campestris, N. (y.) nearly erect, stout, with rigid rush-like branches: petioles semi-cylindrical, somewhat dilated towards the extremity; the lower ones bearing 3 to 5 pairs of rigid linear-subulate leafets; the upper ones 3-foliate or simple: stipules triangular-subulate: the racemes short, 5 to 10 flowered, loose: calyx hirsute with black hairs, with short subulate teeth: legumes pubescent, long and straight, compressed. 1 f. Oregon.

junceus, N. ( ) erect, slender, much branched: radical petioles bearing 1 to 2 pairs of minute leafets; the cauline ones filiform and leafless: stipules broadly triangular, minute: peduncles very long, the flowers few and remote: bracts scarcely any: teeth of the calyx very short and obtuse: legumes long, linear, straight, puberulent. Rocky Mts.

orthocarpus, N. (y.) decumbent, slender, flexuous, much branched from below: lower leaves with 1 to 2 pairs of long narrowly linear and very acute leafets: upper leaves simple, sessile, similar to the lower leafets: stipules minute, dilated: peduncles longer than the leaves, few-flowered: teeth of the calyx very short, acute: legumes oblong-linear, nearly straight, coriaceous, somewhat puberulent, torulose, 6 to 8-seeded. Rocky Mts.

decumbens, N. (y. p.) much branched from the base, diffuse, or decumbent, slender: leafets 3 to 5 pairs, mostly very small, narrowly lanceolate-linear, on long often slightly dilated petioles: stipules subulate, the lower ones partly united: peduncles very long: racemes very loose, 5 to 10-flowered: legumes flat, linear, elongated, falcate, somewhat puberulent. Rocky Mts.

tenuifolius, N. (y. p.) low, branched from the base, somewhat cespitose: leafets 3 to 6 pairs, very small, subulate, on a narrow-channelled rachis: stipules triangular-acuminate; the lowermost broader and membranaceous: peduncles very long, 5 to 8-flowered: teeth of the calyx short and acute: legumes short and flat, linear-elliptical, straight, somewhat puberulent. 3—4 i. Rocky Mts.

Acaulescent.

cespitosus, N. (J. p.) leaves simple or pinnately 3 to 5-foliolate, linear-lanceolate or oblanceolate, narrow, acute, tapering below: racemes loose: bracts lanceolate-subulate, about the length of the pedicels in fruit: teeth of the calyx subulate, about the length of the tube: legumes oblong-lanceolate, acuminate, flat, very slightly curved, at length glabrous, about 12-ovuled. 3—4 i. Hills of the Platte towards Rocky Mts.

brachycarpus, N. (p.) leaves simple, rarely 3-foliolate, lanceolate-linear, acute, tapering below: racemes loose: bracts subulate, nearly as long as the calyx: teeth of the calyx setaceous-subulate, as long as the tube: legumes oblong-elliptical, with an abrupt short point, flat, straight, at length almost glabrous, about 8-ovuled. Hills of the Platte towards Rocky Mts.

canescens, N. (p.) leaves simple, lanceolate, pungent, tapering below into slender petioles: racemes sub-capitate, at length rather loose: flowers larger: bracts subulate, nearly the length of the calyx: teeth of the calyx subulate, about as long as the tube: legumes linear, flat, abruptly pointed, somewhat curved, puberulent, about 12-ovuled. High hills of the Platte towards Rocky Mts. 2—4 i.

15—12. HO'PEA. 71. Styr. stom. aro. ast.

Southern.

tinctoria, (sweet-leaf. y. Ap. ♃.) leaves lance-oblong, glaucous, pubescent beneath: flowers sessile, axillary, in clusters. 15—18 f. Charleston, S. C. Florida.

3—2. HOR'DEUM. 10. Gram. far. ton.

jubatum, (squirrel tail grass, wall barley. W. J. ♂.) lateral florets abortive, neuter: awns of the glumes and paleas six times as long as the flowers. 2 f. S. B. C. D.

Hopea. In honor of Dr. John Hope, Prof. of botany at Edinburgh.
Hordeum. Lat. *hordeum*, the derivation of which is uncertain.

Exotic.

vulgare, W. (barley. Ju. ⊙.) florets all perfect, awned, in two erect rows.
distichon, W. (J. ⊙.) lateral florets imperfect, awnless: seeds angular, imbricate.

Southern.

pusillum, N. (W.) lateral florets staminate or neuter, awnless, acute: four inner glumes coriaceous, dilated; all short awned: awns scabrous. 4—6 i. Decumbent.

10—10. Horke'lia. 92. Rosa. ast. ref. feb.

congesta, Doug. (   ) radical leaves pinnate; leafets cuneate-oblong, gashed at the apex: exterior divisions of the calyx very entire: petals longer than the calyx. R.

10—3. Horten'sia. 58. Capr. ton. feb—.

Exotic.

speciosa, (changeable hydrangea. r. &. w. J. ♄.) leaves broadly ovate, serrate, acuminate: flowers corymbed. From the East Indies. This is the common flower-pot shrub, usually called hyderindia.

16—10. Hosack'ia. 93. Leg. nut. asc. ape.

bicolor, Douglass. (W. y. w.   ) glabrous, decumbent: leafets sub-opposite, 7 to 9, oblong or obovate: stipules heart-ovate, membranaceous, very obtuse: flowers umbelled: bracts 1-leaved or none. Rocky Mts. and west of them.
decumbens, Bent. (W. y. ♃.) rough haired, decumbent: leafets alternate, 4 or 5, wedge-oval, acute: stipules very minute, acute, caducous: flowers umbelled: bracts 1 to 3-leaved. West of Rocky Mts.
parviflora, Bent. (W.   ) erect, glabrous, chiefly ramose at the base: leafets alternate, 4 to 6, obovate-oblong glaucous beneath; stipules obsolete, caducous: peduncles 1-flowered: bracts under the flowers often 3-leaved. West of Rocky Mts.
unifoliata, Hk. (W.) decumbent, hirsute, branches much spread: leaves generally with a single leafet, rarely 2 or 3, sub-sessile, oval, acute at the apex and base: stipules obsolete: peduncles 1-flowered: bracts under the flowers 1-leaved, ovate. West of Rocky Mts.
platycarpa, N. (   ) slightly pubescent, robust: leafets 7—9 pairs, most opposite, oblong-oval or obovate: stipules small, cordate-ovate, membranaceous, obtuse: peduncles bracteate with a 2—4-foliolate leaf below the umbel: calyx truncate, minutely toothed: legume rather broad and flat. Oregon.
parviflora, Benth. (⊙. J. w-r.) erect, nearly glabrous, branched from the base: leafets 4—6, oblong and obovate, alternate: peduncles 1-flowered: bracts 3-foliolate: calyx one-third the length of the corol; teeth linear-subulate. Oregon. *S.*
microphylla, N. (♂.) nearly prostrate, and much branched, somewhat strigosely pubescent: leafets 4—5, obovate or oval-oblong, alternate: peduncles shorter or a little longer than the leaves, bract usually trifoliolate. Oregon. *S.*
elata, N. (May. w.) sparsely hirsute: stem tall and somewhat branching above: leaves on short petioles; leafets elliptical-oblong, somewhat obtuse: peduncles longer than the leaves: bract of a simple leafet: calyx two-thirds the length of the corol; the segments twice as long as the tube: legume terete, slender. Oregon.
floribunda, N. (J-Ju.) smoothish or pubescent, much branched and decumbent: leafets elliptical-oblong, the lateral ones narrower: extreme branches with unifoliolate leaves: flowers on short peduncles, approximated towards the extremity of the branchlets: bract of a single leafet: legume compressed, few-seeded. Rocky Mts.
pilosa, N. (   ) densely clothed with soft hairs, decumbent and much branched: leafets elliptical-oblong, obtuse or slightly acute: branches unifoliolate: bract of a single leaf: flowers scattered: peduncles very short: legume flattish, few-seeded. Rocky Mts.
mollis, N. (J.   ) hirsute with spreading hairs, erect, branching from the base: leafets

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Horkelia. The name of a friend to the botanist who gave it, latinized.
Hortensia. From *hortus*, a garden, its former specific name. *Hydrangia hortensia.*
Hosackia. In honor of Dr. David Hosack, of New York, who was the earliest patron of botany in the Northern States.

oblong and cuneate-oblong, obtuse: peduncles longer than the leaves: bract of a single leafet: calyx as long as the corol: legume almost flat, glabrous. Banks of the Wahlamet.

Southern.

stolonifera, Lindl. (g. p. ♃.) glabrous, erect, stoloniferous: leafets 11—15, ovate or oblong, mucronate: stipules ovate, herbaceous: umbels many-flowered, capitate: bracts 1—3-foliolate: teeth of the calyx very short. California.

gracilis, Benth. (y. ♃.) glabrous, decumbent: lower leafets obovate-cuneate: stipules large, membranaceous: bracts trifoliolate: calyx somewhat bilabiate, the teeth half as long as the tube. California.

stipularis, Benth. ( ) stem and petioles hairy: stipules foliaceous, broadly semi-sagittate: bracts trifoliolate: teeth of the calyx shorter than the tube. California.

crassifolia, Benth. ( ) leafets broadly obovate, somewhat fleshy, stipules scarious: bracts 3-foliolate: teeth of the calyx very short. California.

ochroleuca, N. (y. March. A. ♃.) pubescent, nearly erect: leaves sessile: leafets 3—4 pairs, obovate or oblong, alternate: stipules very minute: umbels bracteate with a single sessile leafet: teeth of the calyx acuminate, as long as the tube: legume sub-terete. St. Barbara. California.

grandiflora, Benth. (♃.) stem slightly pubescent above: leafets about 7: peduncles elongated: bract 1-foliolate, sessile: teeth of the calyx scarcely shorter than the tube. California.

tomentosa, Hook. & Arn. (y. r. ♃.) herbaceous, canescently tomentose, decumbent: leafets 4—6, obovate, mostly obtuse: peduncles very short, bracts 1-foliolate: teeth of the calyx shorter than the tube. California.

micrantha, N. (y. ☉. March, Ap.) herbaceous, pubescent, prostrate: leafets 4—6, cuneate or obovate, obtuse: umbels almost sessile, few-flowered, without bracts. California.

cytisoides, Benth. (y.) suffruticose, somewhat pubescent, decumbent: branches angular: leafets 3—6, cuneate-oblong: petioles very short: umbels many-flowered, on short peduncles: bracts of 1—3 minute leafets: teeth of the calyx subulate, recurved. California.

prostrata, N. (y. r. A.) suffruticose, nearly glabrous, prostrate: branches terete: leafets 3—7, oblong, obtuse: peduncles longer than the leaves, often elongated: umbels many-flowered: bracts 1-foliolate: calyx much shorter than the corol, the teeth scarcely one third the length of the tube: legume with a very long subulate point. California.

juncea, Benth. (y.) suffruticose, glabrous: branches angular and erect: leafets 3—5, oblong, obtuse, peduncles very short, 3—5 flowered, without bracts: calyx somewhat prismatic, with very short, pointless teeth. California.

crassifolia, N. (y-r.) suffruticose, decumbent, nearly glabrous: branches angular: leafets 3—4, oblong or cuneate oblong, obtuse, thick: umbels nearly sessile, 5—7 flowered: bracts none: teeth of the calyx about one-fourth the length of the tube: legume with a very long, subulate point. California.*

scoparia, N. (y-r. March, Ap.) suffruticose, erect, much branched, nearly glabrous: branches terete: leafets 3—4, linear-oblong, somewhat acute: umbels sessile, 5—7-flowered: bracts none: teeth of the calyx subulate, about one-third the length of the tube: legume with a very long, subulate point. 3—4 f. California, used there for making brooms.

sericea, Benth. (r-y.) densely silky-tomentose: leafets usually 3: peduncles very short, 1—3-flowered, without bracts. California.

nudiflora, N. (☉. March.) somewhat pubescent with appressed hairs, diffusely branched from the base: leafets 5—7, alternate, oblong-linear, acute: peduncles with a minute, glandular scale in the place of the bract: legume pubescent, straight, curved at the joint, somewhat terete. California.

strigosa, N. (☉? March. y.) strigosely pubescent, decumbent, much branched: leafets 6—9, alternate, lanceolate linear, acute: peduncles naked, or with a bract of 1—3 minute leafets: corol nearly twice as long as the calyx: legume pubescent, nearly straight. California.

rubella, N. (☉. r.) strigosely pubescent, much branched: leafets 6—10, alternate, linear, rather obtuse: peduncles 1—3-flowered, naked, or with a bract of a single leafet: legume pubescent, nearly straight. California.

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* It seems there are two H. *crassifolia*, one of Bentham, and one of Nuttall. From the descriptions, they are evidently distinct plants.

maritima, N. (March. y. ☉?) rather succulent, somewhat strigose, prostrate, much branched: leafets 4—5, alternate, obovate, obtuse: peduncles 1—3-flowered, naked, or with a trifoliolate bract: legume glabrous, sub-terete, straight. California.

sub-pinnata, T. (☉.) canescently villose, branched from the base: leafets about 5, obovate, obtuse: flowers solitary, nearly sessile: bracts none: teeth of the calyx subulate, as long as the tube: legume pubescent, 3—6 i. California.

wrangeliana, T. ( ) diffuse, sparsely hirsute: leafets 4, oblong, somewhat glaucous: peduncles axillary, very short, 1-flowered: bracts none: legume pubescent. California.

5—1. Hotto'nia. 35. Prim. sed. sop.

inflata, E. (1) (water violet. W. w. J. ♃.) flowers whorled, short peduncled: corol shorter than the calyx: scape short, inflated between the joints: leaves alternate, pinnatifid, crowded. *S.* Rhode Island. B. C. F.

4—1. Housto'nia. (2) 46. Gent. ton+.

cœrulea, (3) (venus' pride, innocence, dwarf pink. O. b. & w. M. ♃.) stem erect, setaceous, dichotomous: radical leaves spatulate; cauline ones oblanceolate, opposite: peduncles 1-flowered, elongated. 4—6 i. *S.* Mch.

longifolia, W. (4) (W. p. J. ♃.) leaves narrow-lanceolate, tapering to each end: flowers corymbed. 6—12 i. *S.* P. B. H. D. U. Canada. Mch.

purpurea, W. (5) (W. p. w. Ju. ♃.) stem erect, branching above, pubescent at the joints: leaves sessile, ovate, lanceolate, or lance-linear: fascicles terminal, corymbed. 4—8 i. *S.* S—C.

ciliolata, T. (W. p.) radical leaves ovate, obtuse, narrow at the base, ciliate at the margin: cauline ones ovate-spatulate, sessile: corymbs terminal, pedicelled: peduncles trichotomous: divisions of the calyx lance-linear: stem smooth, branched above. Niagara Falls. Mch.

pubescens, R. (A.) leaves wedge-form acute, pubescent; lower ones sub-petioled, lanceolate; upper ones sub-oval, sessile: panicle trichotomous, terminal.

patens, E. (6) (p. March. ☉.) small, stem branching, dichotomous, with scabrous angles: flowers solitary, terminal and axillary. 1—2 i. S—C.

Southern.

serpyllifolia, Mx. (O. b. M. ♃.) procumbent, cespitose: leaves spatulate, obtuse: peduncles terminal, 1-flowered, very long.

tenella, Ph. (A. b. J. ♃.) stem creeping, filiform: leaves round acute, nerved: peduncles terminal, 1-flowered, very long. Smaller than the last.

rotundifolia, Mx. (L. w. Ap. ♃.) creeping: leaves ovate, roundish, abruptly narrowed at the base: peduncles axillary, solitary, 1-flowered. Leaves evergreen. Florida.

tenuifolia, N. (W.) smooth: stem erect, divaricate, very branching; branches sub-trichotomous: leaves narrow-linear: corymbs terminal, sub-fastigiate, with long setaceous peduncles. 6 i.

minima, Bk. (W. b. March. ☉?) stem erect, simple, 4-cornered, somewhat scabrous: leaves opposite, spatulate-ovate, sub-acuminate, ciliate, scabrous on both sides: flowers peduncled, solitary, terminal. 1—2 i.

18—2. Hoya. 47. Ascl. dia. r. nau. exp.

Exotic.

carnosa, R. Br. (w-r.) leaves ovate: flowers bearded. A vine.

Hottonia. In honor of John Hotton, the predecessor of Boerhaave at Leyden.

Houstonia. In honor of Dr. Wm. Houston, an English botanist of considerable merit.

Hoya. In honor of the gardener of the Duke of Northumberland.

(1) palustris? Ph. (2) Hedyotis, H. (3) linnei, Mx. (4) angustifolia, Mx. (5) varians, Mx. Hedyotis umbellata, Wr. Knoxia purpurea, Lk. (6) linnei, Var. coerulea. Mx. Var. minor, Ph.

12—1. Hudso'nia. 80. Cist. stom. ton.

ericoides, (false heath. W. y. J. ♄.) leaves acerose-subulate, hirsute: peduncles filiform, solitary. About 6 i. high, a very delicate shrub. Pine barrens. Y.

tomentosa, N. (W. L. y. Ju.) hoary tomentose: leaves ovate, imbricate, shorter than the intervals of the stem: flowers sub-sessile: calyx obtuse. B. D. Canada. N. Jersey. Mch.

Southern.

montana, N. (A.) decumbent, smoothish, cespitose: leaves long filiform-subulate, sub-imbricate: peduncles terminal, solitary: calyx bell-form, woolly: capsule villose. 3—5 i.

20—5. Hu'mulus. 98. Urti. nar. ton. ano.

lupulus, (hop. O. g-y. Au. ♃.) stem twining with the sun: leaves lobed. One of the best of tonics.

14—1. Hutchin'sia. 63. Cruc. asc. nut.

calycina, (w.) white-pubescent: leaves mostly radical, deeply pinnatifid, long petioled; calyx permanent: silicles oblong, tapering to both ends, acuminated by the style. A Var. lower leaves all entire. R. A.

6—1. Hyacin'thus. 16. Asph. exp. nar. stim.

Exotic.

orientalis, (garden hyacinth. r. Ap. ♃.) corol funnel-form, half 6-cleft, ventricose at the base.

muscari, (musk hyacinth. b. Ap. ♃.) corols ovate, all equal.

botryoides, (grape hyacinth. b. Ap. ♃.) corols globose, uniform: leaves cylindric, channelled, straight.

comosus, (purple grape hyacinth. p.) corols angular cylindric: upper flowers sterile, long-peduncled, erect.

racemosus, (hare-bell hyacinth. ♃.) flowers thick, ovate, those at the top sessile: leaves lax, pendant, linear, carinate.

10—2. Hydran'gea. 58. Capr. ast. fra.

vulgaris, Ph. (1) (hydrangea. W. w. Au. ♄.) leaves oblong-ovate, obtuse at the base, acuminate, toothed, glabrous beneath: cymes naked. 5 f. S. P. H. M. Harper's Ferry.

nivea, Mx. (2) (w. Ju. ♄.) leaves heart-ovate, acuminate, serrate, snow-white down beneath: cymes radiate. 6—8 f. S. P. S—C.

Southern.

cordata, Ph. (3) (W. A. Ju. ♃.) leaves broad-ovate, sub-cordate at the base, acuminate, coarsely toothed, glabrous beneath: cymes generally radiate.

quercifolia, Bart. (w. & r. Ju. ♄.) leaves oblong, sinuate-lobed, toothed, tomentose beneath: cymes radiate, thyrse-panicled. 4—5 f. Florida.

Hydrangea, HORTENSIA.

12—12. Hydras'tis. 61. Ranu. acr. cau. poi.

canadensis, (orange root, turmeric root. W. w-r. Ap. ♃.) stem with two opposite

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Hudsonia. In honor of Wm. Hudson, a correspondent of Linneus, and author of Flora Anglica.

Humulus. Lat. *humus*, fresh earth, from its choosing rich soil.

Hutchinsia. The name of a friend to the botanist who gave it, latinized.

Hyacinthus. After Hyacinth, the favorite of Apollo, who was changed into this plant.

Hydrangea. Gr. *udōr*, water, and *aggeion*, a vessel, in allusion to the pitcher-like shape of the seed-vessel.

Hydrastis. From Gr. *udor*, water, in reference to the humid places wherein it grows.

(1) arborescens, W. (2) radiata, Wr. (3) vulgaris, Mx.

leaves above: leaves petioled, emarginate at the base, palmate, serrate, gashed: peduncle terminal, solitary, 1-flowered. Root yellow. *S.* P. Y. C. D. Mch.

20—9. Hy'drocha'ris. 22. Hydr. ton.

Southern.

spongiosa, Bosc. (1) (w. Au. ♃.) monoecious: leaves floating, round-cordate, reticulate beneath, with vesicles at the base. Stagnant water.

10—6. Hydrochlo'a. 10. Gram. far. ton.

fluitans, Mx. (2) (Ju. ♃.) small: stem slender, branching: leaves linear, flat: spikes solitary, axillary, setaceous, about 4-flowered: glumes unawned. *S.*

5—2. Hy'drocoty'le. 60. Umb. ton—. dem.

umbellata, W. (water navel-wort. g-w. M. ♃.) leaves peltate, crenate, at the base emarginate: umbels peduncled, many-flowered. *S.* P. B. C. F. Mch. S—C.
americana, (O. g-w. J. ♃.) glabrous, tuberous: leaves sub-peltate, orbicular, doubly crenate: glomerules few-flowered, sessile. Var. *flexicaulis*, stems firmer and shorter, somewhat flexuous-angled. Var. *gracilis*, slender, filiform, not flexuous: leaves smaller. Plant low and prostrate. Flowers very small. *S.*
vulgaris, (3) (penny-wort. g. w. J. ♃.) leaves orbicular, peltate, slightly crenate: scape interruptedly spiked, few-flowered. *S.* P. C. Canada.
ranunculoides, (4) (J. ♃.) leaves cordate, somewhat 5-lobed, crenate-dentate: umbels capitate, 8 to 10-flowered. *S.*
lineata, Mx. (5) (r-w. Ju. ♃.) glabrous, creeping: leaves sessile, cuneate-linear, with transverse nerves: umbels peduncled. *S.* C. Peekskill.

Sub-genus Erigenia. Described at page 60.

bulbosa, N. (W. w. ♃.) glabrous: leaves one or two, radical, petioled, gash-biternate: leafets of the involucels few, unequal: anthers exsert, dark purple. Root globe-tuberous. *S.* P. O. F.
repanda, P. (r-w. Ju. ♃.) leaves round-cordate, somewhat repand; petioles and nerves pilose: heads 3-flowered, peduncled.

Hydroglossum, Lygodium.

5—2. Hydro'lea. 44. Hydr. h. epis.

Southern.

quadrivalvis, Wr. (6) (b. Ju. ♃.) spinose, pilose: leaves long-lanceolate: flowers nearly sessile, axillary: capsules glabrous. Charleston, S—C.
corymbosa, Macbride. (b. & y. Ju. ♃.) without spines, sub-glabrous: leaves lanceolate: calyx hispid: flowers terminal. 2 f.
spinosa, (W.) leaves lanceolate, hirsute: flowers terminal.

12—12. Hydropel'tis. 61. Ranu. acr. cau. poi.

purpurea, Mx. (7) (water-shield, water-target. O. p. Au. ♃.) leaves peltate, oval, entire: peduncles solitary, 1-flowered. The leaves float on the surface of water, having long flexible petioles. Plant mostly covered with mucilage. *S.* Mch.

Hydrocharis. Gr. *udor*, water, and *charis*, grace, as this little plant may be considered to be an ornament of still waters.
Hydrochloa. Gr. *udōr*, water, and *chloē*, grass, it growing principally in water.
Hydrocotyle. Gr. *udŏr*, water, and *kotule*, a cavity, from the leaves being a little depressed in the centre, so as to hold a drop of water.
Hydrolea. From Gr. *udor*, water, and *elaia*, oil, because the leaves of this water plant are viscous as if they were smeared with old oil.
Hydropeltis. Gr. *udŏr*, water, and *peltē*, a shield, from the floating peltate leaves.
(1) cordifolia, N. (2) zizanea, Mx. (3) interrupta, M. (4) cymbalarifolia, M. (5) Crantzia, N. (6) caroliniana, Mx. (7) Brasenia peltata, Ph.

5—1. Hydrophyl'lum. 43. Hydro. emo. ton—.

virginicum, (burr-flower. W. b. J. ♃.) smoothish: leaves pinnate and pinnatifid; divisions lance-oval, gash-serrate: fascicles of the flowers conglomerate. The flowers have the appearance of a burr several weeks before they expand. 9—18 i. *S.* O. D. P. Windsor, Vt. Mch. M.

canadense, W. (rough burr-flower, W. p. & w. Ju. ♃.) hirsute: leaves lobe-angled: fascicles of the flowers crowded. Resembles the last in some respects, but the leaves are much larger. W.'P. C. N. O. D. Mch. M.

hispidum, Riddell. whole plant hispid: leaves mostly radical.

macrophyllum, N. (W. w. ♃.) leaves pinnatifid, coarsely gash-toothed, divisions sub-rhomboid, oval, upper ones confluent: peduncles very long, and with the calyx hirsute: cyme crowded: divisions of the calyx shorter. K.

Southern.

lineare, Ph. (W. Ap. ♃.) pilose: leaves linear: racemes elongated.

15—1. Hymenolobus. 63. Cruc. asc. diu.

divaricatus, N. ( ) procumbent, much branched: leaves short and pinnatifid, with several oblong lobes; upper ones linear and often entire: silicle elliptical-oblong-obtuse. Oregon.

erectus, N. ( ) stem erect, much branched: leaves oblong, somewhat pinnatifid or entire: silicle linear-oblong. Oregon.

17—1. Hymenopap'pus. 55. Heli. s. ole. sto.

Southern.

scabiosaeus, Mx. (w. Ap. ♃.) whitish-woolly: leaves deeply pinnatifid; divisions linear-oblong, sub-dentate: flowers corymbed. 2—3 f. Florida.

tenuifolius, Ph. (W. g-w. ♂.) whitish woolly: stem corymb-branched: leaves sub-bipinnatifid; divisions narrow-linear, entire: flowers compoundly corymbed: pedicels crowded: involucre about 6-leaved, shorter than the florets: akenes very villose.

douglasii, H. ( ) tomentose, with white deciduous wool: branches elongated, sub-corymbed: leaves bipinnatifid, segments linear, sinuate: flowers solitary: leafets of the involucre about 20, linear, pubescent, shorter than the flower: corol filiform, apex pilose, chaffs of the pappus linear, scarcely longer. 1—3 f. R.

filifolius, H. ( ) tomentose with white deciduous wool: branches paniculate, scattered: leaves bipinnatifid, segment filiform, elongated, very entire: flowers solitary: leafets of the involucre about 12, elliptic, pubescent, somewhat shorter than the flower: tube of the corol campanulate above: pappus very short. 18—24 i.

21—1. Hymenophyl'lum. 5. Fili. sec. stim.

ciliatum, W. (♃.) frond pinnate: lower leafets larger: upper ones gradually smaller, pinnatifid; divisions linear, obtuse, 2-cleft, ciliate, hairy on the veins: rachis and stipe with ciliate wings. On trunks of trees. *S.*

5—1. Hyoscy'amus. 38. Sola. f. nar+. h. poi.

niger, (henbane. y. & p. Ju. ♂.) leaves clasping, sinuate: flowers veiny, sessile. Naturalized. T. B. D. F. N. Black Rock. Grows spontaneously at Detroit, and Upper Canada, near Buffalo. Cooley.

Hyoseris, Krigia.

Hydrophyllum. Gr. *udōr*, water, and *phūllon*, a leaf, from the leaves in the spring being filled with water.

Hymenolobus. Gr. *umen*, membrane, *lobas*, lobe. Pod membranaceous.

Hymenopappus. Gr. *umēn*, a membrane, and *pappus*, seed-down, from the tops of the akenes being covered with membranaceous egret.

Hymenophyllum. Gr. *umēn*, a membrane, and *phūllon*, a leaf, the foliage being remarkable for its filmy texture.

Hyoscyamus. Gr. *us*, (*uos*) a hog, and *kuamos*, a lot or measure; because it is good enough for hogs. Probably named by a Jew.

12—5. **Hype'ricum.** 68. Hype. cat. feb.

1. *Flowers with* 5 *styles.*

kalmianum, W. (W. y. Ju. ♄.) frutiose, very branching; branchlets 4-cornered: leaves lance-linear: corymbs terminal, 3—7-flowered: divisions of the calyx lanceolate, obtusish: capsule as long as the calyx. 3—5 f. *S.* P. Niagara Falls, Lake Huron. N. Jersey. Mch.

pyramidatum, W. A. (W. y. Ju. ♃.) flowers pentagynous, terminal: styles shorter than the stamens: sepals ovate, acute: stem somewhat 4-sided, branching: leaves sessile (sub-amplexicaule,) oblong, acute, glabrous.

2. *Flowers with* 3 *styles, or fewer.*

prolificum, W. (1) (W. y. J. ♄.) braches 2-edged: leaves lance-linear, obtusish: corymbs axillary and terminal, few-flowered: petals a little longer than the stamens: sepals lanceolate. 1—3 f. *S.* H. D. Mch.

galioides, Lk. (W. y. Ju. ♄.) branches 4-sided: leaves linear, sessile, revolute at the margin, fascicled: panicles terminal, divaricate-dichotomous: petals and stamens equal, scarcely longer than the linear sepals: styles united, sub-exsert. 2 f. *S.*

perforatum, (2) (O. y. J. ♃.) erect, branching: stem 2-edged: leaves oblong, obtuse, transparently punctate: panicle terminal, brachiate, leafy: petals longer than the acute, lanceolate sepals. This is the common st. john's wort, so troublesome to farmers. 1—3 f. *S.*

corymbosum, W. (3) (W. y. Ju. ♃.) erect, glabrous, darkly punctate: stem terete, branching: leaves clasping, oblong-oval, obtuse: corymbs terminal, brachiate, dense-flowered: divisions of the calyx lanceolate, acute. 18—24 i. *S.* B. D. F. T. P. N. V. Mch.

parviflorum, W. (4) (low centaury. O. y. Ju. ♃.) erect, small, glabrous, dichotomous-ramose, somewhat 4-sided: leaves ovate-oblong, sub-cordate, obtuse, nerved, sessile: panicles terminal, dichotomous-corymbed: petals shorter than the lanceolate sepals. 6—12 i. *S.* Florida. Mch.

canadense, (W. y. Ju. ☉.) erect, small, few-flowered: stem 4-sided, dichotomous above: leaves sessile, linear, slender at the base: the branches of the panicle opposite, the branchlets dichotomous: capsule long, conic, colored, red. 9—18 i. *S.* P. Y. W. N. B. C. D. Mch.

adpressum, B. (y. Ju. ♃.) stem erect, 2-edged immediately below each pair of leaves, and sub-cylindric near the root: leaves opposite, closely sessile, lanceolate-obtuse, transparently punctate, with very fine dots: those of the branches sub-linear, crowded; those of the cymes small, acute, crowded: flowers terminal and axillary, with obtuse, entire petals: style 1: capsule sub-conic. P.

petiolatum, Wr. (5) (y. Ju. ♃.) leaves petioled, oblong-oval, round-obtuse: flowers opposite, axillary, sub-sessile, sub-ternate: stamens adnate as far as the middle: capsule oblong. *S.* P.

angulosum, Mx. (6) (y-r. Ju. ♃.) erect: stem 4-sided: leaves oblong, acute, closely sessile: panicle terminal, dichotomous-branches divaricate, with distant alternate flowers: calyx sub-campanulate; divisions lanceolate, acute, keeled below, almost as long as the corol: petals with a single lateral tooth. 2 f. N.

micranthum, Choisy. (W.) stem terete, punctate, becoming purple: branchlets straight: leaves oblong, obtuse, black-punctate: flowers crowded, terminal: sepals small, obtuse: corol and anthers black-punctate. *S.* Canada. D.

ellipticum, Hk. (W.) stem erect, herbaceous, sub-ramose above, acutely 4-angled: leaves oval, very obtuse, pellucid and fuscous, punctate: corymbs small, terminal: divisions of the calyx oblong, spreading, very unequal, nerved, foliaceous: styles 2 or 3, compactly united. Canada. N. W. Lakes.

cistifolium, (♃.) stem angled: leaves ovate-oblong, black-punctate beneath, acutish, somewhat clasping, margin revolute: flowers in dichotomous corymbs: sepals ovate, entire: styles coadnate. N.

frondosum, Mx. (7) (W. y. Ju. ♄.) branches two-edged: leaves oval-oblong, obtuse, mucronate, narrow at the base: flowers terminal, sub-solitary: divisions of the

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Hypericum. Obscure. Gr. *uperikon*, in Dioscorides.

(1) kalmianum, Du Roi. (2) virginicum, Wr. (3) punctatum, Lk. maculatum, Wr. (4) quinquenervium, Wr. mutilum, W. (5) axillare, Mx. Elodea petiolata, Ph. (6) denticulatum, Wr. (7) elatum, A.

calyx oblong, acute, equalling the stamens and petals: styles united, as long as the stamens. Canada.

scouleri, Hk. ( ) stem terete below, quadrangular above: leaves oblong-ovate, closely sessile and somewhat clasping, not dotted; under surface with numerous prominent veins: cyme somewhat compound: sepals broadly ovate, rather obtuse, one third the length of the petals, dotted with black: styles 3, distinct, erect. Oregon. Rocky Mts.

sarothra, Mx. (J. Au. nit-weed, false john's wort. orange grass. pine-weed. p. y. ☉.) small, erect, setaceous-ramose: leaves minute, close-pressed: flowers on the branchlets alternate, solitary: styles 3. 4—8 i. S. T. Y. C. B. P. H. M. F. N. Sarothra gentianoides of 7th edition.

Southern.

Flowers with 3 styles.

aspathaloides, W. (1) (y. ♄.) branches sub-terete, dichotomous: leaves fascicled, linear, acute, striate: flowers solitary, axillary, sub-sessile: styles united.

fasciculatum, Mx. (2) (y. Ju. ♄.) branches 4-angled: leaves crowded, somewhat in verticillate clusters, filiform, linear, obtuse, sessile: peduncles axillary, near the summit of the branches, 1 to 3-flowered: sepals filiform: styles united. Does this really differ from the galioides? Elliott. 1—2 f.

rosmarinifolium, (3) (W. y. Ju. ♄.) stem terete, somewhat angled: leaves lance-linear, acute, tapering at the base, somewhat clustered: panicle long: peduncles near the summit of the branches, axillary, 3-flowered: styles united. 2—4 f. Charleston, S—C.

ambiguum, E. (J. ♃.) branches compressed: leaves lance-linear, acute, mucronate: flowers axillary and terminal: sepals lance-linear, unequal, as long as the corol: petals toothed near the summit: styles 3, united. 2—4 f.

fastigiatum, E. (J. ♄.) branches somewhat compressed: leaves narrow-lanceolate, very acute: corymbs terminal, many-flowered, fastigiate: styles united. 3 f.

nudiflorum, Mx. (y. Au. ♄.) branches winged: leaves oblong-ovate, obtuse, sessile: panicle terminal, naked, compound: corol larger than the calyx: styles united. S—C. K.

glaucum, (4) (y. Ju. ♄.) branches terete: leaves oblong, cordate, clasping, obtusish, smooth, glaucous, coriaceous: panicle leafy, divaricate-dichotomous: divisions of the calyx ovate, acute, longer than the petals: stamens and petals about equal: styles united.

opacum, T. ( ) stems 2-winged: leaves linear-oblong, obtuse, closely sessile, somewhat coriaceous, opaque, punctate with minute brown dots, veinless: cyme compound, naked; the dichotomal flowers sessile: sepals very unequal, obovate and oblong: petals somewhat dolabriform, twice as long as the sepals: styles united to the summit: capsules globose-ovate, 3-lobed by the inflexion of the dorsal sutures. Georgia, Alabama. 2 f.

drummondii, T. (Ju. S.) stem and branches rather stout, terete below, quadrangular above: leaves narrowly-linear, longer than the internodes: flowers pedicellate: stamens 10 to 20: capsules ovate, shorter than the lanceolate sepals: styles 3. Missouri, La. G.

elatum, A. ( ) trigynous: sepals lanceolate-ovate, acute: stamens longer than the corol: stem shrubby: leaves ovate-oblong.

pilosum, Wr. (Ju.) pilose: stem virgate, simple: leaves expanding, ovate, acute, tapering at the base: panicle few-flowered.

acutifolium, E. (y.) stem herbaceous, branching, glabrous: leaves narrow-lanceolate, acute: panicle many-flowered: capsules scarcely longer than the calyx.

tubulosum, Wr. (5) ( ) leaves sessile: corol tubular: stamens united above the middle.

triplinerve, Vent. (W. y. Au. ♃.) erect, somewhat branching: stem somewhat two edged: leaves linear, spreading, 3-nerved: flowers raceme-panicled: corol unequal: acute sepals and petals glandular-serrate.

dolabriforme, Vent. (W. y. Ju. ♃.) erect, branching: stem two-edged: leaves lance-linear, spreading, obtuse: corymb terminal, dichotomous: sepals lanceolate, unequal: petals ax-form.

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(1) fasciculatum, Lk. (2) tenuifolium, Ph. (3) fasciculatum, Ph. W.
(4) myrtifolium, Lk. (5) Elodea, Ph. &c.

sphaerocarpum, Mx. (W. y. ♃.) erect, very glabrous: leaves oblong: panicle naked, dichotomous; forks all 1-flowered: styles united: capsule globose.

virgatum, (♃.) stem straight, quadrangular: leaves lance-ovate, slightly clasping, black-punctate, margin revolute: panicle few-flowered, dichotomous: sepals lanceolate, entire: styles 2 or 3: stigma capitate.

hedyotifolium, (♃.) stem straight, quadrangular: leaves sessile, decussate, lanceolate, sub-acute, close-pressed, black-punctate beneath, not pellucid: sepals lance-linear, black-punctate: styles 3 or 4; stigma capitate.

Flowers with 5 styles.

rostratum, (♃.) stem woody, 2-edged: leaves sessile, ovate, acute at both ends, at the margin revolute, punctate: corymbs axillary and terminal: calyx 2-bracted: germ beaked, with 5 styles. Louisiana.

Hypericum, SAROTHRA.

21—1. HYPOPEL'TIS. 5. Fili. sec-stim.

obtusa, W. (1) (W. Ju. ♃.) frond doubly-pinnate, the lesser leafets oblong, obtuse, the upper ones having united bases; tooth crenate: rachis pubescent above. 4—5 i. Rocks. T. O. H.

6—1. HYPOX'IS. 17. Hypo. ton—.

erecta, W. (2) (star-grass. O. y. Ju. ♃.) pilose: scape 2 or 3-flowered: leaves lance-linear: divisions of the corol lance-oblong. Var. *graminea*, has longer and narrower leaves: more flowers, longer lance-linear divisions to the corol—and altogether a more grassy appearance. *S.*

Southern.

filifolia, E. (Ap.) leaves filiform, somewhat angled, hairy: scape generally 2-flowered.

juncea, S. (J. ♃.) pilose: leaves filiform, channelled, very entire: scapes 1-flowered.

13—1. HYP'TIS. 42. Labi. fra. sto. car. ton.

Southern.

radiata, (w. Au. ♃.) heads of flowers opposite: peduncles as long as the internodes: bracts lanceolate, longer than the fruit-bearing calyx: leaves oblong, serrate. 3—4 f.

capitata, W. (w. Ju. ♃.) heads of flowers opposite: peduncles as long as the internodes: bracts lanceolate, shorter than the fruit-bearing calyx: leaves oblong, attenuate at each end, unequally serrate. It is doubtful whether this species has been found in this country.

spicata, Poit. ( ) spikes terminal: flowers in little heads, pedicelled, crowded: leaves cordate-ovate, doubly serrate. Florida.

13—1. HYSSO'PUS. 42. Labi. fra. sto. car. ton.

nepetoides, W. (3) (giant hyssop. W. g-y. Ju. ♃.) stem acutely 4-angled, sub-alate: leaves ovate, acutely dentate; petioles smooth. 4—8 f. *S.* T. Y. P. W. D. N. C. H. F. O. U. Canada. Mch.

scrophularifolius, W. (4) (W. Ju. ♃.) stem obtusely 4-angled: leaves heart-ovate, obtusely dentate: petioles ciliate-pubescent. 3—5 f. Dr. Darlington, and Dr. M. Stevenson, have shewn that these are perfectly distinct species. P. W. C. D. Mch.

foeniculum, Ph. (5) (W. b. Ju. ☼.) erect, pubescent: leaves heart-ovate, toothed, glabrous above, whitish-tomentose beneath: whorls about 6-flowered.

Hypopeltis. Gr. *upo*, under, and *pelte*, a shield.
Hypoxis. Gr. *upo*, under, and *oxūs*, sharp; from the sharp pointed capsules.
Hyptis. Gr. *uptios*, resupinate, referring to the corol.
Hyssopus. Gr. *ussopus*, a word from the Hewbrew *ezob*.

(1) Aspidium obtusum, 5th ed. (2) caroliniensis, Mx. (3) Lophanthus. (4) Lophanthus. (5) aristatus, N. Stachys, Ph.

Exotic.

officinalis, (hyssop. Ju. ♃.) flowers whorled: racemes one-way: intermediate divisions of the corol 2-lobed, entire: leaves lance-linear.

I.

14—1. Ibe′ris. 63. Cruc. asc. ton.

Exotic.

umbellata, (candy tuft. w. J. ☉.) leaves lanceolate, acuminate; lower ones serrate, upper ones entire.

4—1. Ic′todes. (1) 7. Aroi. d-r. ast. cat. *ast.*

fœtida, Mx. (skunk cabbage, fetid hellebore. O. p. A. ♃.) stemless: leaves radical, heart-ovate, very large: spadix supporting the flowers in a sub-globose head. Odor resembles that of the skunk. . Mch. *S.*

4—4. I′lex. 95. Ilic. ton. ast.

opaca, A. (evergreen holly. M. g-w. M. ♃.) leaves evergreen ovate, acute, spinose glabrous, flat: flowers scattered at the base of the shoots of the preceding year. A middle sized tree. *S.* Y. C. P. B. Canada. Charleston, S—C. Florida. M.

Southern.

laxiflora, Lk. (J. ♄.) leaves ovate, sinuate-toothed, spinose, shining, flat: peduncles super-axillary, in the young branches aggregate, lax-ramose.

cassina, A. (J. ♄.) leaves lance-ovate, sharply serrate, flat, glabrous on the mid-rib beneath: lateral peduncles corymb-branched. 8—12 f. Charleston, S—C.

dahoon, Wr. (w. M. ♄.) leaves lance-oblong, nearly entire, reflexed at the margin, villose on the mid-rib beneath: peduncles lateral and terminal, corymb panicled. 4—12 f. La.

laurifolia, N. ( ) leaves large, elliptic, acutish, very entire, sempervirent: pedicels elongated, sub-3-flowered. Florida.

myrtifolia, Wr. (2) (W. J. ♄.) leaves lance-linear, mucronate, rigid, very glabrous: fertile flowers solitary. 6—10 f.

ligustrina, E. (3) (J. ♄.) leaves lance-linear, wedge-form at the base, generally entire: fertile florets solitary. 6—10 f.

vomitoria, A. (4) (south-sea tea. O. M. ♄.) leaves oval, obtuse at each end, crenate, serrate, glabrous: umbels lateral, sub-sessile. 6—15 f.

prinoides, A. (M. ♄.) leaves deciduous, lance-oval, acute at each end, serrate: peduncles 1-flowered; fertile ones solitary. 6—8 f. S—C.

Ilex, Myginda, Nemopanthes.

Illecebrum, Achyranthes.

12—12. Illi′cium. 75. Wint. h. b. aro. spi.

Southern.

parviflorum. Mx. (y. M. ♄.) leaves alternate, lanceolate, entire, obtuse, perennial: petals and sepals round, concave. 6—10 f.

floridanum, W. (W. p. J. ♄.) leaves acuminate: petals numerous, oblong and linear. Florida.

Iberis. From the country Iberia, now Spain.
Ictodes. From Gr. *iktis*, a kind of weasel, a ferret: a skunk: in allusion to its odor.
Ilex. Lat. scarlet oak. Boerh. says it is from Hebrew *elon*, which signifies oak.
Illicium. Lat. *illicio*, to attract, on account of its aromatic fragrance.

(1) Pothos, L. Symplocarpus, Sy. Dracontium, E. in another part of his work.
(2) angustifolia, Ph. rosmarinifolia, Lk. M. (3) angustifolia, M. Var. ligustrifolia, Ph. (4) cassine, Wr.

5—1. Impa'tiens. 73. Bals. cat—.

pallida, N. (1) (jewel-weed. touch-me-not. O. y. Ju. ⊙.) peduncles solitary, 2 and 4-flowered: spur obtusely conic, dilated, shorter than the petals, recurved, very short: flowers sparingly puncate: leaves rhomb ovate, mucronate-toothed. 2—4 f. *S.* Not so common as the next.

fulva, N. (2) (speckled jewels. O. y. & r. Ju. ⊙.) peduncles solitary, 2—4-flowered: spur acutely conic, longer than the petals, resupinate, emarginate, nearly as long as the galea: flowers with crowded spots: leaves rhomb-ovate, mucronate, toothed. 2—4 f. *S.*

Exotic.

balsamina, (balsam weed. r. & w. Au. ⊙.) peduncles aggregate, 1-flowered: leaves lanceolate, upper ones alternate: spur shorter than the flowers. 1—3 f. by rich culture 5 f.

Imperatoria, Angelica.

16—10. In'digofe'ra. 93. Leg. ape. hea. dye.

Exotic.

tinctoria, (indigo. ♄.) leaves pinnate, oblong, glabrous, in four pairs: racemes shorter than the leaves: legume terete, somewhat arched. From the East Indies.

Southern.

caroliniana, Wr. (b. Au. ♃.) leaves pinnate: leafets oval and obovate: spikes longer than the leaves: legumes 2-seeded, reticulate-veined. 2—7 f.

leptosepala, N. (r. ♃.) rough and cinereous with appressed hairs: stem herbaceous, decumbent: leaves unequally pinnate, on short petioles; leafets 3—4-pairs, obovate-oblong or cuneiform, nearly sessile, somewhat glabrous on the upper surface: racemes pedunculate, longer than the leaves, 6—15-flowered, the flowers nearly sessile: calyx deeply parted: the segments attenuate-subulate, equal: legumes linear, reflexed, somewhat quadrangular or nearly terete, straight and even, 6—9-seeded. Arkansas, Georgia.

17—2. I'nula. 55. Inul. r. ton. sec-stim. feb. sud. r. exp.

he'lenium, (elecampane. W. y. Au. ♃.) leaves clasping, ovate, rugose, tomentose beneath: scales of the involucre ovate. Naturalized. 3—5 f. B. T. C. O. V. Mch.

Inula, Chrysopsis.

5—1. Ioni'dium. 80. Viol. cat—. ton.

concolor, Forst. (3) (green violet. W. w-g M. ♃.) straight, erect: leaves broad-lanceolate, sub-entire: stipules subulate entire: peduncles short: petals connivent, emarginate; spur 0. 20 i. *S.* O. M. K.

Southern.

stipulaceum, N. (M. J. ⊙.) nearly glabrous: leaves alternate; lower ones oblong; upper ones oblong-linear and linear, entire: stipules large, linear-lanceolate: sepals very acute: limb of the inferior petals reniform, twice as long as the calyx: appendages of the lower stamens subulate. 8—12 i. Arkansas, Texas.

lineare, T. ( ) somewhat pubescent: stem branched: leaves linear narrow, entire: stipules linear, minute. Arkansas.

Impatiens. Lat. *in*, not, and *patior*, to suffer, from the elasticity of the capsule, which will open as soon as touched.

Indigofera. Meaning, bearing indigo; this being the plant from which indigo is obtained.

Inula. Gr. *elenion*, fabled to have sprung from the tears of Helen.

Ionidium. Gr. *ion*, violet, and *eidos*, like; from its resemblance to the violet.

(1) aurea, M. nolitangere, Ph. (2) maculata, M. biflora, Ph. (3) Viola, Forst. Ph. &c.

5—1. IPOME'A. 44. Conv. r. cat.

lacuno'sa, Mx. (w. & p. J. ☉.) glabrous: leaves cordate, acuminate, scrobiculate, angled at the base: peduncles short, about one-flowered: calyx hairy: corol tubular, short: capsules hairy. *S.* P.
nil, Mx. (1) (morning glory. W. b. Ju. ☉.) hirsute: leaves cordate, 3-lobed: peduncles short, 1—3-flowered: calyx very villose, long-acuminate. *S.* P. Harper's Ferry. S—C. M.
quamo'clit, W. (jasmine bindweed. r. w. Au. ☉.) leaves pinnatifid, linear: flowers sub-solitary; corol tubular. P.

Southern.

coccinea, Wr. (y-r. Ju. ☉.) pubescent: leaves cordate, acuminate, sub-angled: peduncles about 5-flowered: caylx awned: corol tubular; limb sub-entire.
dissecta, Mx. (Ju. ♃. ♄?) stem, petioles, and peduncles very pilose: leaves glabrous, 7-lobed; divisions sinuate: peduncles 1-flowered: divisions of the calyx oval: corol bell-form.
trichocarpa, Mx. (2) (p. Ju. ☉.) leaves entire, cordate, or 3-lobed, villose: calyx ciliate: capsules hirsute: peduncles about 2-flowered. S—C.
bona'nox, W. (w. Ju. ☉.) very glabrous: leaves cordate, entire or angled: peduncle 1 to 3-flowered: calyx awned: corol undivided; tube long.
tamnifolia, W. (b. Ju. ☉.) hirsute: leaves cordate, acuminate: flowers in aggregate heads, involucred: bracts linear: corol short, tubular; limb spreading: capsule glabrous.
ciliosa, Mx. (W.) glabrous: leaves cordate, sub-ciliate at the margin: peduncles long, 1-flowered: calyx without bracts; divisions broad-oval, obtuse: corol tubular, bell-form.
orbicularis, E. (p. Ju.) prostrate: leaves round, emarginate, veined, glabrous: peduncles about 3-flowered: tube of the corol short.
carolina, Cates. (b.) leaves digitate; leafets petioled: pedunclss 1-flowered.

Ipomea, CONVOLVULUS,

20—5. IRE'SINE. 30. Amar. cata. r. ton.

Southern.

celosioides, W. (W. S. ☉.) leaves punctate, scabrous: lower ones oblong, acuminate; upper ones lance-ovate: panicle branching, crowded: stem furrowed. 3—4 f.

3—1. I'RIS. 18. Irid. stim. poi. cat.

versic'olor, (3) (snake lily, blue flag. O. b. J. ♃.) leaves ensiform: stem acute on one side: capsules oblong, 3-sided, with obtuse angles. Var. *sulcata*, (4) inner petals longer than the stigmas: germ with sulcate angles and concave sides: capsule oblong, ventricose; angles somewhat furrowed. Var. *communis*, (5) stem erect, flexuous: leaves narrow-ensiform: inner petals a little shorter than the stigmas: angles of the germ not grooved when young, sides deep-concave: capsule cylindric-oblong. 2—3 f. *S.* Mch.
prismatica, Ph. (6) (boston iris. b. y. J. ♃.) flowers beardless: leaves linear: stem round, many-flowered: germs triangular, twice grooved on the sides. 1—2 f. C. Y. B. N. M.
lacustris, N. (W. b. ♃.) beardless: leaves short-ensiform: scape much shorter than the leaf, 1-flowered: petals sub-equal? attenuated on the tube: capsule turbinate, 3-sided, margined, seed roundish, smooth: root tuberous. Great lakes. Mch.
missouriensis, N. (W. y. b. ♃.) beardless; stem terete, higher than the leaves, somewhat 3-flowered: leaves narrow-ensiform: capsules oblong-linear: flowers bicolored. 12—16 i. R.

Ipomea. Gr. *ips*, vine or twining, and *omoios*, like; from its resemblance in appearance and habit. Taken by Linneus from Convolvulus.
Iresine. Gr. *eiros*, wool, because this plant, when in fruit, bears a sort of woolliness.
Iris. Gr. *iris*, the rainbow, from the varied and somewhat concentric hues of the flower.

(1) Convolvulus, W. (2) carolina, Ph. W. & Mx. (3) virginica, Bw. 1st ed., and probably of L. (4) versicolor, W. virginica, Ph. (5) versicolor, Ph. (6) gracilis, Bw. 1st ed. virginica, T.

Exotic.

sambucina, (elder-scented iris, garden iris. b. p. w. M. ♃.) stem many-flowered, higher than the leaves: divisions of the corol emarginate; outer ones flat: leaves inflex-falcate at the apex: spathe membranaceous at the apex: lower flowers peduncled: stigmas with acute serrate divisions. 18—24 i. Cultivated in gardens, common. Called *plicata* in 5th ed., now corrected by Prof. Tully.

pumila, (dwarf flower-de-luce. b. M. ♃.) bearded: scape 1-flowered: leaves ensiform, glabrous: tube of the corol exsert: petals oblong, obtuse. 6—10 i.

ochroleu'ca, (yellow iris. y. M.) beardless: leaves ensiform, depressed, striate: scape sub-terete: germ 6-cornered.

Southern.

cristata, Mx. (W. b. & y. Ap. ♃.) bearded; beard crested: scape generally 1-flowered, as long as the leaves: germs 3-angled: petals about equal. 2—4 i. S—C.

tripe tala, Wr. (1) (b. M. ♃.) beardless: stem terete, longer than the leaves: leaves ensiform: rudiments of the inner petals 3-toothed; middle tooth acuminate: capsule 3-angled. 2 f. S—C.

cuprea, Ph. (O. r-y. Ju. ♃.) beardless: stem terete, flexuous, equalling the leaves: leaves broad-ensiform: stigmas linear, short: petals all reflexed, emarginate, obovate; inner ones shortest: capsules large, 6-angled. 3 f. La.

verna, W. (W. A. b. M. ♃.) beardless, stemless, 1-flowered: leaves very long, grass-like, glaucous: tube very long; petals nearly equal: capsules roundish, sessile. On the earth.

sibirica, W (W. b. Ju. ♃.) beardless: stem hollow, terete, higher than the leaves, somewhat 3-flowered: leaves linear: capsules short, 3-angled, obtuse at each end.

13—1. ISAN'THUS. 42. Labi. stom. ton.

cœruleus, Mx. (2) (blue gentian, false pennyroyal. O. b. Ju. ♃.) viscid-hairy: leaves lance-oval, acute at both ends, 3-nerved: peduncles 1 or 2-flowered.

14—1. ISA'TIS. 63. Cruc. asc. dia. dye.

Exotic.

tinctoria, (woad. J. ♂.) radical leaves crenate; cauline ones sagittate, oblong.

14—1, ISNAR'DIA. (3) 88. Onag. emo.

palustris, W. (water purslane. O. g. J. ♃.) prostrate, creeping: leaves opposite, lanceolate, tapering at the base: capsule oblong, sub-angled. Var. *americana*, leaves acuminate, large: flowers sessile, apetalous. Mch.

ascendens, Hall. stem obliquely ascending, rigid, (never creeping or prostrate) somewhat angular, reddish. Grows with the *palustris*, but is generally smaller and quite different in appearance. Albany.

Southern.

alata, E. (Ju.) glabrous: leaves wedge lanceolate, decurrent, stem winged: capsule cubic, sessile. 2 f.

microcarpa, Mx. (4) (Au. ☉?) stem decumbent, slightly winged: leaves alternate, spatulate-obovate: flowers axillary, sessile. 1 f.

sphaerocarpa, E. (Au. ♃.) stem erect, branching: leaves lance-linear: capsules small, sessile, globose, pubescent. 2 f.

cylindrica, E. (Au. ♃.) stem erect, branching, slightly angled: leaves lanceolate: capsules cylindrical. 3 f.

lanceolata, E. (Ju. ♃.) stem virgate: leaves narrow, lanceolate, glabrous, sub-decurrent: capsules cubic, sessile, winged.

Isanthus. Gr. *isos*, equal, and *anthos*, flower; because this plant, unlike the rest of the class, has a regular corol.

Isatis. Gr. and Lat. *isatis;* from Gr. *isazō*, to render equal. The plant was believed to destroy, by its simple application, all roughness and inequalities of the skin.

Isnardia. In honor of Danti d'Isnard, a French botanist.

(1) tridentata, Ph. (2) Trichostema brachiata, L. (3) Ludwigia, E. Ph. &c. (4) glandulosa, Ph.?

21—1. Isoe'tes. 5. Fili. sec-stim.

lacustris, W. (quill-wort. ♃.) frond dilated and imbricate at the base, narrow and subulate above, flat: root fibrous. From 2 to 12 inches high: color green: growing immersed, or at the margin of ponds. Resembles a zoophyte. P.

6—1. Isome'ris. 64. Capp. ver. asc. ape.

Southern.

arborea, N. (y. ♄.) leaves crowded, trifoliate; leafets lanceolate, somewhat mucronate, glabrous: calyx campanulate: segments triangular-ovate, acuminate. A low tree. California. With the unpleasant odor of *Polanisia*.

Isalensis, Scirpus.

Isopyrum, Enemeon.

5—1. I'tea. 84. Saxi. ast.

Southern.

virginica, W. (itea. W. w. J. ♄.) leaves alternate, lanceolate, acuminate, serrulate, pubescent on the veins. 3—6 f. *S.* New Orleans, Florida. S—C.

17—4. I'va. 55. Ambr. ton. sec. stim. feb. sud.

frutescens, (high-water shrub. L. g. Au. ♄.) leaves lanceolate, punctate-scabrous, deeply serrate: glomerules of florets globose, depressed. Somewhat shrubby. 3—4 f. *S.* B. C. F. M.

axillaris, Ph. (W. y-g. M. ♃.) herbaceous, sub-pilose: leaves generally opposite, lance-linear, entire: flowers axillary, solitary, nodding: involucre nearly simple; leafets ovate. 6—8 i. R.

Southern.

imbricata, Wr. (L. Au. ♄.) shrubby, glabrous: leaves lance-linear, wedge-form, entire, glabrous: involucre imbricate.

xanthifolia, N. (W. Au. ☉.) leaves opposite, petioled, heart-ovate, acuminate, doubly serrate, soft-villous, hoary beneath: spikes naked, panicled. 5—6 f.

ciliata, Ph. (W. Ju. ☉.) herbaceous: leaves lance-ovate, sub-serrate: spike somewhat crowded: bracts lanceolate, acuminate: bracts and petioles long-ciliate. 2 f.

3—1. Ix'ia. 18. Irid. stim. poi—.

Exotic.

chinensis, (blackberry lily. y. r. J. ♃.) corol about 6-petalled: stem flexuose: leaves ensiform.

Southern.

coelestina, B. (O. b. M. ♃.) leaves linear-subulate, many times shorter than the 1-flowered scape.

J.

2—1. Jasmi'num. 34. Jasm. fra. stom.

Exotic.

fruticans, (jasmine. y. ♄.) leaves alternate, ternate, simple; leafets obovate, wedge-form, obtuse: branches angled.

officinale, (jasmine. w. ♄.) leaves pinnate, opposite; leafets acuminate. Florida.

Isoetes. Gr. *isos*, equal, and *etos*, the year; from its being evergreen.
Isomeris. Gr. *isos*, equal, *meris*, divisions.
Itea. Gr. *itea*, a willow, from *ienai*, to go; on account of its rapidity of growth.
Iva. A name of barbarous origin, or an abbreviation of Abiga, (see Ajuga,) applied by Linneus to those plants, because their smell resembles that of the ancient Iva.
Ixia. Derived from Gr. *icho*, to fix; alluding to the viscid roots of some species.
Jasminum. From the Arabian jasmin *(ysman.)*

19—15. JA'TROPHA. 96. Euph. ton. iri. stom.

Southern.

stimulosa, Mx. (tread softly. w. Ju. ♃.) hispid with stimulating prickles: leaves palmate-lobed; lobes obtusish, sub-sinuate-toothed: cymes short-peduncled. 6—18 i. Florida. S—C.

8—1. JEFFERSO'NIA. 62. Podo. cat.

diphylla, B. (1) (twin leaf. W. w. M. ♃.) stemless: peduncles naked, 1-flowered: leaves in pairs. Var. *lobata*, leafets incisely 5 to 7-lobed. J. lobata M. P. O. K.

19—12. JU'GLANS. 94. Jugl. cat. ast. eme. f. ole.

nigra, (black walnut. O. M. ♃.) leafets numerous, lance-ovate, serrate, sub-cordate, narrowed above; petioles and under side of the leaves sub-pubescent: fruit globose, with scabrous punctures, nut wrinkled. Mch.

cinerea, (butternut. O. M. ♃.) leafets numerous, lanceolate, serrate, rounded at the base, soft-pubescent beneath; petioles villose: fruit oblong-ovate, viscid, long-peduncled; nut roughly sculptured. The bark is a cathartic. Mch.

Exotic.

regia, (madeira nut. M. ♃.) leafets about 9, oval, glabrous, sub-serrate, sub-equal: fruit globose. Var. *fraxinifolia*, has 9 or 10 leafets, oblong, serrate, smooth; lateral lower one adnate on the common petiole. It is said that this variety is indigenous to North America.

Juglans, CARYA.

6—1. JUN'CUS. 13. Junc. ton—.

1. *Scapes naked; flowers lateral.*

effusus, (soft rush, bulrush. W. J. ♃.) scape minutely striate; (soft:) panicle loose, very branching, spreading: sepals lanceolate, acuminate, rather longer than the obovate, obtuse capsule. 2—3 f. S. T. B. C. O. F. P. Y. Mch.

setaceus, Rostk. (W. ♃.) scape filiform, striate: umbel lateral, compound, few-flowered: peduncles many-flowered: sepals subulate. 2 f. S. C. P. N.

acutus, (O. ♃.) scape naked, terete: panicle lateral: involucre 2-leaved, spinous: capsule roundish, mucronate, twice as long as the calyx. 2—3 f. S. Y. C. Mch.

2. *Leaves all radical; flowers terminal.*

squarrosus, (♃.) leaves setaceous, (rigid) grooved: panicle terminal, elongated, compound: capsules elliptical.

tenuis, W. (W. Ju. ♃.) stem erect, filiform, somewhat dichotomous at the summit, nearly terete: leaves setaceous, channelled: flowers solitary, approximate, sub-sessile: calyx longer than the obtuse capsule. 1 f. S. T. B. C. O. P. F. N. Mch.

nodosus, (W. Ju. ♃.) stem somewhat leafy: leaves nodose-articulate: heads about 2, globose; one of them lateral and peduncled, the other sessile: sepals mucronate, shorter than the acuminate capsule. 8—10 i. S. C. N. D. Mch.

3. *Stems leafy.*

(Leaves nearly plane, grooved above.)

marginatus, Rostk. (2) (W. Au. ♃.) leaves flat, smooth: corymb terminal, simple, proliferous: heads 5 to 10-flowered; flowers triandrous: sepals about as long as the

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Jatropha. Gr. *iatron*, a remedy, and *phago*, to eat, the fruit being used both for food and physic.

Jeffersonia. In honor of Thomas Jefferson, who was a patron of natural science.

Juglans. Contracted from Jovisglans, the acorn of Jupiter, from its goodness.

Juncus. Lat. *jungo*, to join, from its use in tying or binding things together.

(1) Podophyllum, L. (2) aristulatus, Mx. E.

obtuse capsule; outer ones and bracts somewhat awned. Var. *odoratus*, stem tall, sub-terete, leafy: panicle very branching, proliferous. 12—18 i. *S.* Y. P. H. M.

trifidus, (A. Ju. ♃.) sheaths ciliate; those at the base of the stem leafless: bracts leafy, very long, grooved: heads about 3-flowered, terminal: stem 1-leaved. 6 i. White Mts.

bulbosus, (1) (black grass. Au. ♃.) stem simple, leafy, compressed: leaves linear-setaceous, channelled: panicle terminal, compound. sub-cymose, shorter than the involucre: sepals incurved, obtuse or acute, generally shorter than the ovate, sub-globose capsule. Y. B. C. P. Mch.

bufonius, (toad rush. W. Ju. ☉.) stem dichotomous above, panicled: leaves filiform-setaceous, channelled: flowers sub-solitary, sessile, 1-sided: sepals very acuminate, much longer than the oval-ovate capsule. 3—6 i. *S.* P. H. B. F. N. Black Rock.

(Leaves rounded or sub-compressed, nodose-articulate.)

acuminatus, Mx. (W. Au. ♃.) stem leafy, erect: leaves terete, nodose-articulate: panicle terminal, compound: heads 3 to 6-flowered, peduncled and sessile: sepals lance-linear, somewhat awned, shorter than the acute capsule. viviparous? 18 i. *S.* N. Y. P. C. H. Owego.

polycephalus, Mx. (2) (W. Au. ♃.) stem leafy, erect: leaves compressed, nodose-articulate: panicle decompound. heads globose, many-flowered: flowers triandrous: sepals somewhat awned, rather shorter than the triangular, acute capsule. 18—24 i. *S.* N. H. B. T. C. M. D.

subverticilla'tus, W? (3) (♃.) cauline leaves subulate, nodose-articulate: panicle corymbed: heads about 5-flowered, fasciculate-whorled: sepals striate, as long as the obtuse capsule. 18 i. Canada.

militaris, Bw. (   ) leaf one, jointed, cylindrical, longer than the stem: panicle terminal, proliferous: heads about 5-flowered: sepals acute. 2—3 f. B.

conglomeratus, S. (Ju. ♃.) stem naked, straight: panicle lateral, conglobate: capsule retuse: flowers triandrous. Y.

Southern.

repens, Mx. (J. ♃.) creeping: stem geniculate, branching: leaves linear, flat: fascicles lateral and terminal: flowers triandrous: leaves of the calyx subulate, carinate, very acute. 6—10 i.

biflorus, E. (J. ♃.) stem terete: leaves linear, flat: panicle decompound, long; fascicles 2-flowered. 3 f. S—C.

20—15. JUNI'PERUS. 100. Conif. f. res-ton. diu+. sti. sud. car. *ast. dro.*

communis, W. (juniper. W. M. ♄.) leaves in threes, spreading, mucronate, longer than the berry. Var. *erecta*, branches erect. Var. *depressa*, (4) branches prostrate or horizontal. P. T. N. Canada, Mch.

virginiana, Wm. (red cedar. O. M. ♄.) leaves in threes, adnate at their bases; in their young state they are imbricate, older they become spreading. 15—50 f. Mch.

sabina, W. (savin. W. M. ♄.) leaves opposite, obtuse, glandular in the middle, imbricate 4-ways; the young tender ones opposite, acute. Grows near Lake Superior, Pitcher. Var. *procumbens*, 6 inches high. Rocky Mountains, Ph. B. Canada.

Southern.

excelsa, W. (M. ♄.) leaves opposite, obtusish, glandular in the middle, imbricate 4-ways; the young tender ones acute, in threes, spreading: stem arboreus. A middle size tree. Perhaps a variety of the last.

barbadensis, W. (♄) leaves all imbricate four ways; younger ones ovate; older ones acute.

Juniperus. Lat. *juvenis*, young, and *pario*, to bring forth, because it produces young fruit while the old ones are ripening; or from the Celtic word *jenuprus*, signifying rough or rude.

(1) dichotomus, E. (2) Var. crassifolius, E. Ph. Bw. echinatus, M. (3) fluitans, Mx. verticillatus, Ph. (4) repens, N. prostrata, M.

10—1. Jussiæ'a. 88. Onag. emo. ton—.

Southern.

grandiflora, Mx. (y. Ju. ♃.) creeping: stem erect and ascending: leaves lanceolate, entire, with the peduncles and calyx villose: flowers decandrous. 2—3 f. Charleston, S—C. New Orleans, Dr. Riddell. La.

erecta, W. (y. Au. ♃.) erect, glabrous: leaves lanceolate: flowers octandrous, sessile.

subacaulis, Ph. (W. y. J. ♃.) creeping, glabrous: leaves lance-linear, repand-toothed: flowers solitary, octandrous, peduncled: alternate filaments shortest: petals obovate.

leptocarpa, N. (W. y. ☉.) erect: stem and calyx somewhat hirsute: leaves lanceolate, attenuate at each end: flowers sessile: capsule slender, cylindric.

tenuifolia, N. (   ) leaves sessile, linear, glabrous; flowers sessile, octandrous. Florida.

2—1. Justi'cia. 36. Rhin. aro. ton—.

pedunculosa, Vahl. (1) (water willow. W. Ju. ♄.) spikes axillary: flowers crowded: peduncles elongated, alternate: leaves lanceolate. *S.* H. Niagara river. S—C. M.

Exotic.

adhatoda, (malabar nut. p. ♄.) leaves lance-ovate: bracts ovate, nerved, permanent: helmet of the corol concave.

Southern.

humilis, Vahl. (Ju. ♃.) spikes axillary and terminal, few-flowered: flowers distant: bracts linear: leaves lance-oblong. La.

brachiata, Ph. (W. r. Ju. ♃.) peduncles axillary in whorled racemes: pedicels in pairs: bracts obovate, 3-flowered: leaves ovate, acute; petioles very long: stem six-angled, very branching.

K.

10—1. Kal'mia. 50. Eric. l. poi. l. & f. nar. ast.

latifolia, W. (broad-leaved laurel. W. w. & r. Ju. ♄.) leaves long-petioled, scattered, and in threes, oval, smooth both sides: corymbs terminal, with viscid hairs. 3—20 f. *S.* B. P. T. F. M. N. Florida.

angustifolia, (sheep laurel, dwarf laurel. O. J. ♄.) leaves in threes, petioled, oblong, obtuse, sometimes rusty beneath: corymbs lateral: bracts linear: peduncles and calyx with glandular hairs. Var. *ovata*, taller, leaves broader, sub-ovate. 2—3 f. *S.*

glauca, A. (2) (swamp laurel. W. r. M. ♄.) branchlets 2-edged: leaves opposite, subsessile, oblong smooth, glaucous beneath, margin revolute: corymb terminal, bracted: peduncles and calyxes very glabrous. Var. *rosmarinifolia*, leaves linear, green beneath. 18—24 i. D. P. N. F. T. Plainfield, Mass. Mch.

Southern.

cuneata, Mx. (A. w. r. ♄.) leaves scattered, sessile, wedge-form, oblong, pubescent beneath, slightly awned at the apex: corymbs lateral, few-flowered.

hirsuta, Wr. (r. Ju. ♄.) branches, leaves and calyx hirsute: leaves opposite and alternate, sub-sessile, lanceolate: peduncles axillary, solitary, 1-flowered, longer than the leaves. 10—18 i. Charleston, S—C.

16—10. Kentrophyta. 93. Legu-ton—.

montana, N. (y. ♃.) stipules scarious, cohering about half their length: calyx pubescent, with dark and white hairs. Hills of the Platte.

viridis, N. (   ) stipules herbaceous, distinct nearly to the base: hairs of the calyx all white. Hills of the Platte.

Jussiæa. In honor of B. Jussieu, the great French botanist.
Justicia. In honor of James Justice, a botanist of Edinburgh.
Kalmia. In honor of Dr. Kalm, a pupil of Linneus.
Kentrophyta. Gr. *kentron*, spine, *phuton*, plant.

(1) Dianthera americana, L. ensiformis, Wr. (2) polifolia, Wm.

5—2. Ko'CHIA. 29. Chen. nut. ton. lax—.

Southern.

dentata, W. (1) (W. J. ☉.) leaves lanceolate, sinuate-toothed: stem erect, very branching.

dioica, N. (W. M. ☉.) low: branching axillary: leaves sessile, very entire, lance-ovate, acute, glaucous, somewhat succulent: staminate flowers terminal, conglomerate. Both species resemble chenopodium. 6—12 i.

3—2. KOELE'RIA. 10. Gram. far. ton.

pennsylvanica, Sl. (2) (J. ♃.) leaves flat, and with the sheaths soft-pubescent: panicle oblong, slender, rather loose: glumes 2-flowered, nearly equal; lower one oblong, obtuse, sub-mucronate: upper palea scabrous. 2 f. O. N. T. Mch. K. M.

truncata, M. (3) (J. ♃.) leaves flat, smooth: panicle oblong, racemed: glumes 2-flowered with a third abortive floret, unequal: lower one a little scabrous, obtuse: paleas glabrous. 2 f. Var. *major*, T. panicle large, a little spreading: leaves broad-linear, very long. 3 f. S. O. N. Mch. K. M.

nitida, N. (W. ☉?) spike elongated, lobed: lobes crowded, appressed, approximate: spikelets oblong-ovate, smooth, awnless: lower ones 2-flowered; upper ones 3, both with an additional setaceous rudiment: stipule hairy. 8 i. D. Mch.

Southern.

paniculata, N. (   ) panicle oblong, smooth: spikelets 2 to 3-flowered, shining: glumes awnless, very unequal, largest one obtusely truncate.

cristata, S. (4) (W. Ju. ♃.) spike somewhat lax: spikelets diverging, 3 to 4-flowered, somewhat awned and wrinkled, sub-ciliate on the keel.

4—1. KRAME'RIA. 93. Leg. asc. exp. ast.

lanceolata, T. & J. (W. y. ♄.) hoary-pubescent: leaves lanceolate, acute, villose: pedicels axillary, about twice as long as the leaves.

17—1. KRI'GIA. 53. Cich. sec-stim. ano. sal.

virginica, Mx. (5) (dwarf dandelion. y. M. ☉.) small: leaves lyrate, glaucous, smoothish, ciliate: scape 1-flowered, becoming elongated after flowering: involucre about 8-leaved. Var. *dichotoma*, caulescent, dichotomous. 4—8 i. *S.* T. B. F. N. D.

amplexicaulis, Mx. (6) (y. Ju. ♃.) glaucous: radical leaves spatulate, lanceolate and oval, toothed: scape somewhat leafy and branched. 12—14 i. *S.* D. N. Mch.

griffithii, N. (7) (y. ♃.) very glabrous: glaucous: radical leaves runcinate-lyrate, oblong; cauline ones clasping, stems few-flowered (2—3): flowers long peduncled. Philadelphia.

Southern.

caroliniana, Wr. (8) (Ap. y. ♃.) leaves runcinate, nearly glabrous: scapes very long, with the base of the involucre glandular-hairy. 6—12 i. K.

dandelion, (9) (y. ♃.) glabrous; slightly glaucous: leaves lance-linear, entire, smooth: scape 1-flowered. 8—18 i.

montana, Mx. (10) (A.) very glabrous, procumbent: leaves lanceolate, entire: scape 1-flowered.

occidentalis, N. (W. y.) glabrous, small: leaves sub-lyrate, attenuate: scape nakedish, one flowered: divisions of the involucre lance-ovate: bristles of the egret very short. Arkansas.

Kochia. In honor of Koch, a German botanist.

Koeleria. In honor of M. Kohler, a German botanist.

Krameria. In honor of two German botanists, Kramer, father and son.

Krigia. In honor of David Krieg, a German botanist, who found many new plants in the U. S.

(1) Salsola platyphylla, Mx. (2) Aira, Sl. M. (3) Aira, M. triflora, E. (4) Aira, L. (5) Hyoseris, Mx. (6) Troximon, Ph. Hyoseris, Mx. (7) Hyoseris, Wr. (8) Hyoseris angustifolia, Ph. Tragopogon, L. (9) Hyoseris, Mx. (10) Hyoseris, L.

lyrata, N. (1) (y. ♃.) very glabrous, stemless: leaves sub-lyrate, oblong, acute: scape one-flowered, naked: divisions of the involucre linear-acute. Arkansas.

17—1. KUHN'IA. 55. Eupa. ton. sec-stim. feb.

eupatorioides, W. (2) (false boneset. w. Au. ♃.) glabrous: leaves petioled, broad-lanceolate, serrate: corymbs terminal, few-flowered, compact. 2—3 f. *S.* P. K. M.

critonia, W. (3) (y. Au. ♃.) pubescent: leaves narrow-lanceolate, about 2-toothed below, petioled, punctate beneath; upper ones linear, entire, sessile: panicle terminal, spreading. 3 i. *S.* P. Mch.

glutinosa, E. (W. w. S.) pubescent, glutinous: leaves lanceolate, tapering towards the summit, notched and toothed, crowded: flowers corymb-panicled. 2 f.

3—1. KYLLIN'GA. 9. Cype. far. ton—. sug.

monoceph'ala, (false bog-rush. ♃.) culm filiform, 3-sided, with a leafy base: heads globose, sessile: involucres 3-leaved, very long. T. Y. N.

Southern.

pumila, Mx. (W. J. ♃.) head globose, sessile, solitary: involucre short (long E.) culm setaceous: flowers diandrous. 3—6 i. S—C.

maculata, Mx. (Ju. ♃.) glumes 3, unequal, imbricate: heads about 3, ovate, sub-acute, sessile. 3—5 f.

L.

Lachnanthes, DILATRIS.

17—1. LACTU'CA. 53. Cich. sal. ase. *cac.*

elongata, M. (4) (wild lettuce. O. y. J. ♂. or ♃.) leaves smooth beneath; lower ones runcinate, entire, clasping; lowest ones toothed; highest ones lanceolate: flowers corymb-panicled. 3—6 f. *S.* Mch.

hirsuta, M. (W. y. Au. ♃.) lower part of the stem and leaves hairy: radical leaves lyrate; segments truncate, sub-dentate; upper ones partly runcinate-pinnatifid: flowers racemed.

integrifolia, Bw. (W. y. Ju. ♂?) leaves sagittate, entire, unarmed, clasping, pale beneath, midrib smooth; lower ones a little eroded: flowers panicled. 3—4 f. *S.* B. C.

sanguinea, Bw. (wood lettuce. r. Au. ♂?) leaves clasping, glaucous beneath, runcinate, with the midrib filamentous: flowers panicled. 2—3 f. B. C. Mch.

Exotic.

sativa, (lettuce. y. Ju. ☉.) leaves roundish; cauline ones cordate: stem corymbed. Var. *romana*, has oblong, straight leaves, narrowed at the base. Var. *crispa*, has sinuate-crenate leaves, toothed, undulated, crisped; radical ones hairy on the keel. Var. *laciniata*, has the lower leaves pinnatifid, and the upper ones runcinate.

Southern.

graminifolia, Mx. (p. Ju.) stem erect, simple: leaves unarmed, generally undivided, simple at the base, long-linear: panicle leafless, loose; branches few-flowered: flowers all peduncled. 3 f.

sagittifolia, E. (y? Au.) stem erect, glabrous: leaves lance-oblong, acute, entire, glabrous, pale beneath, close sessile, sagittate at the base: flowers panicled. S—C.

13—1. LA'MIUM. 42. Labi. fra. sto. car. ton. all—.

amplexicaule, (hen-bit, dead nettle. O. p. M. ☉.) floral leaves sessile, clasping, obtuse; radical leaves petioled, sub-orbicular. 6—10 i. *S.*

Kuhnia. In honor of Adam Kuhn, of Pennsylvania, a pupil of Linneus.

Kyllinga. In honor of Peter Kylling, a Danish botanist; often erroneously spelled Kyllingia.

Lactuca. Lat. *lac*, milk, from its milky juice.

Lamium. Lat. *lamium*, from Gr. *laimos*, the throat, alluding to the shape of the corol; or from the sea-monster Lamia, from the grotesque figure of the flower.

(1) Cynthia. (2) Eupatorium alternifolium, L. (3) Critonia kuhnia, Mx. (4) longifolia, Mx.

purpureum, (p. ☉.) leaves cordate, obtuse, toothed, petioled, crowded at the top: stem nakedish downwards. P.

Exotic.

garga'nicum, (dead nettle. ♃.) leaves cordate, concave: throat of the corol inflated; tube short.

Southern.

hispidulum, Mx. (W. w.) stem hispid: leaves long petioled, broad-cordate, pubescent; axils 1-flowered.

13—2. Lanta'na. 41. Verb. h. dis. cata-aro. all—.

Southern.

camara, (y. Au. ♄.) leaves opposite, lance-ovate, crenate and serrate, scabrous: stem rough, not prickly: flowers in umbellate heads, leafless. 2—4 f.

17—1. Lap'sania. 53. Cich. sec-stim. ano—.

communis, L. ( ) fruit at the margin of the calyx angled: stem panicled: peduncles slender; leaves ovate, petioled, angular-dentate. Canada. Probably introduced.

Larbrea, Stellaria.

Larix, Pinus.

16—10. La'thyrus. 93. Legu. nut. asc. ape.

palustris, (marsh-pea. w-p. Ju. ♃.) stem winged: stipules lance-semi-sagittate: leafets six, lance-linear, acute: peduncles about 3-flowered. B. O. D. Canada. Peekskill. Mch.

myrtifolius, W. (1) (r. Ju. ♃.) stem naked, winged, 4-cornered: stipules semi-sagittate, lance-ovate, acuminate: leafets 4, lance-oblong, acute, mucronate, net-veined: peduncles longer than the leaves, about 4 or 5-flowered. C. T. P. R. Mch.

venosus, W. (W. p. Ju. ♃.) stem naked. 4-cornered: stipules semi-sagittate, ovate, acuminate: leafets numerous, somewhat alternate, ovate, obtuse, mucronate, veiny: peduncles shorter than the leaves, 5—40-flowered. Often called myrtifolius. P. D. O. Mch.

maritimus, Bw. (2) (beach pea. p. Ju. ♃.) stem compressed, 4-angled: stipules sagittate; leafets numerous, sub-alternate, obovate: peduncles shorter than the leaves, about 7-flowered. B. C. F. D. Mch.

ochroleucus: Rich. (y. J.) very glabrous: leafets 3 to 4-paired, broad-oval or ovate: stipules broad, semi-cordate, sub-hastate, angled with the angles obtuse, and sometimes obtusely toothed, scarcely smaller than the leafets: peduncles many-flowered, somewhat equalling the leaf: the two upper divisons of the calyx abbreviated: legumes long-linear, acuminate, compressed, glabrous. A. R. Mch.

polyphyllus, (p.) glabrous: stem nearly erect, angled: leaves 5—8 pairs, oval-oblong, obtusish: the tendrils very short: stipules as large as the leafets, semi-cordate, angularly crenate at the base; sometimes acuminate: peduncles 7—10-flowered, shorter than the leaves: segments of the calyx hairy on the margin: the two upper ones triangular, and much shorter than the lanceolate lateral ones; the inferior one subulate-setaceous, rather longest: corol purple: legume smooth, acuminated, long and flat. 2 f. Oregon.

vestitus, N. (J. p.) erect and rigid, or a little climbing, silky-canescent: leafets 5—7 pairs, small, elliptical or oval, cuspidate: tendrils mostly pinnated: stipules broadly semi-sagittate, acuminate, slightly toothed below, about the size of the leafets: racemes about the length of the leaves, 4—6-flowered; flowers large, purple: lower

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Lantana. Lat. *lentus*, flexible; this name was first applied to the genus Viburnum, with which this agrees in some things.

Lapsania. Gr. *lapazo*, to relax, on account of its laxative qualities.

Lathyrus. Gr. *latkuros*, a name employed by Theophrastus to designate a leguminous plant.

(1) stipulaceous, Le Conte. (2) Pisum maritimum, Ph.

segments of the calyx narrowly lanceolate, acuminate, rather longer than the tube: legume flat, pubescent, attenuate at each end: style villous along the side for about one-third its length. Oregon.

linearis, N. (A. p.) nearly glabrous: stem decumbent, slender, angled: leaves nearly sessile; leafets 5—6 pairs, narrowly linear, mostly obtuse, apiculate, rigid; tendrils short, simple or bifid: stipules small, lanceolate, semi-sagittate, laciniate-toothed or incised below: peduncles 3—4-flowered, shorter than the leaves: flowers rather large, pale purple: segments of the calyx triangular-subulate, shorter than the tube: legume attenuated at each end: style nearly filiform, villous all round at the summit. Plains of the Platte.

dissitifolius, N. (p.) somewhat pubescent, climbing: leafets 4—6 pairs, narrowly linear, rather obtuse, apiculate, scattered: the petiole thick and channelled, terminating in a pinnatifid tendril: stipules linear, semi-sagittate, entire: peduncles 4—6-flowered ,much shorter than the leaves: segments of the calyx short, the uppermost obtuse. Plains of the Platte.

ornatus, N. (M. J. p.) erect, glabrous, often glaucous: stem quadrangular: leafets 3—4 pairs, lanceolate linear, rather acute, mucronate, rigid and strongly veined; tendrils scarcely any: stipules linear-lanceolate and slender, semi-sagittate, entire: peduncles about 4-(or 6—8)-flowered, much longer than the leaves; flowers very large, purple: segments of the calyx subulate, slightly unequal, rather shorter than the tube: legume smooth and flat, acuminate at each end, about 10-seeded: style minutely pubescent along the upper side. Oregon.

Exotic.

odoratus, (sweet pea. J. ☉.) peduncles 2-flowered: tendril with two ovate-oblong leafets: legumes hirsute.

latifolius, (everlasting pea. Au. ♃.) peduncles many-flowered: tendril with two lance-ovate leaves; membranaceous between joints.

cly'menum, (various pea. ☉.) peduncles 2-flowered: tendril with many lanceolate leafets: stipules toothed.

articulatus, (jointed pea. Ju. ☉.) peduncles about 1-flowered: tendril with many alternate lanceolate leafets: legume jointed.

sativus, (chick vetch. ☉.) peduncles 1-flowerd, tendrils with 2 and 4 leafets: legumes ovate, compressed, with two narrow wings on the back.

Southern.

pusillus, E. (p. M.) peduncles long, 1-flowered: stipules falcate: tendril 2-leaved, simple: leaves lance-linear: stem winged.

decaphyllus, Ph. (1) (W. p. ♃.) stem 4-angled: stipules linear, semi-sagittate: leaves in 5 pairs; leafets oval-oblong, mucronate: peduncles 3—4-flowered. D.

strictus, N. (A.) pubescent, rather rigid: stem slender, angled: leafets 2—5 pairs, linear, acute: tendrils bifid: stipules semi-cordate, acuminate, serrate: peduncle about 4-flowered, longer than the leaf; flowers large: lower segments of the calyx acuminate, as long as, or longer than the tube. California.

9—1. LAU'RUS. 27. Laur. aro-oil. b. & r. deob. asp. exp.

caroliniensis, Mx. (y. J. ♄.) leaves lance-oval, coriaceous, glaucous beneath: peduncles simple, terminated with a few-flowered fascicle: outer segments of the calyx half as long as the inner ones. Var. *glabra*, leaves glabrous beneath. Var. *pubescens*, leaves pubescent beneath. Var. *obtusa*, leaves obovate, obtuse. Leaves perennial. 10—30 f. *S.* Charleston, S—C. Florida. M.

benzo'in, (spice bush, fever bush. O. g. y. Ap. ♄.) leaves wedge-obovate, whitish sub-pubescent beneath: flowers in clustered umbels: buds and pedicels glabrous. 4—10 f. *S.* Mch.

sas'safras, (sassafras tree. O. y. M. ♄.) leaves entire and lobed on the same plant: flowers mostly dioecious. 10—40 f. *S.* Mch.

Exotic.

cam'phora, (camphor tree. ♄.) leaves about 3-nerved, lance-ovate: panicle spreading. From Japan.

Laurus. Lat. *laurus*, the obscurity of its derivation denotes its antiquity. The Celtic *blaur*, (pronounced *laur)* signifies green.

(1) polymorphus, N. Vicia, stipulacea, Ph?

Southern.

catesbyana, Mx. (w. M. ♄.) lance-ovate leaves and branches glabrous: panicles short peduncled: divisions of the calyx oblong, obtuse, nearly equal, caducous. Leaves perennial. 6—9 f.

aestivalis, (   ) leaves veined, oblong, acuminate, rugose beneath: branches super-axillary.

melissaefolia, Wr. (1) (y. Ap. ♄.) leaves heart-lanceolate, veined, pubescent beneath: flowers in clustered umbels: buds and pedicels villose. 2—3 f.

geniculata, Wr. (y. Ap. ♄.) branches divaricate-flexuose: leaves small, oval, smooth: umbels terminal, few-flowered. 10—15 f.

albida, N. (white sassafras. ♄.) buds and younger branches smooth and glaucous: leaves entire or lobed, every where smooth and thin, obsoletely veined beneath: petiole longer. Is this a distinct species?

13—1. Lavan'dula. 42. Labi. stom. ton. car. fra.

Exotic.

spica, W. (lavender. Au. ♃.) leaves sessile, lance-linear with revolute margins: spikes interruptedly naked.

15—12. Lavate'ra. 74. Malv. emo. muc. f. nut-muc.

Exotic.

thurin'giaca, (gay mallows. ♃.) lower leaves angled; upper ones 3-lobed, with the middle lobe longest: peduncles solitary.

arborea, (tree mallows. S. ♂.) leaves 7-angled: peduncles crowded.

14—2. Leavenworth'ia. 63. Cruc. asc. diu—.

Southern.

aurea, T. (y.   ) style distinct: embryo nearly straight. Arkensas, Texas and Alabama.

michauxii, T. (♃.) style almost none: radical oblique. Tennessee, K.

3—3. Leche'a. (2) 80. Cist. stom. ton.

major, (3) (pin-weed. W. g-p. Ju. ♃.) erect, hirsute: leaves lance-oblong, mucronate: panicle leafy: branches bearing flowers at their tops: flowers in fascicled racemes, one-way, short-pedicelled. 1—2 f. *S.* B. P. C. F. N.

minor, (W. g-p. ♃.) smoothish: leaves lance-linear, acute, panicle leafy; branches elongated, bearing flowers on all parts: stem ascending. S i. B. C. F. H. N. D.

thymifolia, Ph. not of Mx. (Ju. S. ♃.) frutescent: stems decumbent at the base, densely and paniculately branched above, canescently villous with white appressed hairs: leaves very numerous, and often articulate; cauline ones oblanceolate or linear; those of the short, procumbent and very villose radical branches imbricated, elliptical, very small; those of the floriferous branches narrowly linear, with revolute margins, erect and crowded: clusters terminal and axillary near the extremity of the simple floriferous branches, 2—6-flowered; pedicels very short: calyx tomentose-canescent: capsule globose. Massachusets to Virginia.

Southern.

drummondii, T. (J. Ju. p.) decumbent and much branched at the base, slightly pubescent: leaves linear-subulate, scattered: racemes filiform, terminating the numerous branches, loosely flowered; flowers unilateral, on capillary, spreading, and at length reflexed pedicels: capsule globose-3-sided. Texas.

Lavandula. Lat. *lavo*, to wash: from its distilled waters being used in sprinkling in baths.

Lavatera. Named by Tournefort, in honor of two Lavaters, physicians of Zurich.

Leavenworthia. In hornor of Dr. Leavenworth, of U. S. Army; an indefatigeable botanist.

Lechea. In hornor of John Leche, Prof. of Medicine at Abo.

(1) dyospyrus, Ph.   (2) Helianthemum, S.   (3) villosa, E.

Remark. All the species of this genus have a barren aspect, and give pastures a very unsightly arid appearance.

Lecontia, Rensselaeria.

10—1. Le′dum. 50. Eric. ton. ast.

palustre, (marsh tea. w. M. ♄.) leaves linear, margins revolute, iron-rust down beneath: stamens 10, longer than the corol. Canada.

latifolium, A. (1) (labrador tea. w. r. J. ♄.) leaves linear-oblong, folded in at the margin, iron-rust down beneath: stamens mostly 5, equalling or longer than the corol. About swamps. D. T. P. O. N. Pittsfield, Ms. White Mts.

Ledum, Leiophyllum.

3—2. Leer′sia. 10. Gram. far. ton.

virginica, W. (white grass, rice grass. W. Ju. ♃.) panicle simple: lower branches diffuse: flowers appressed, monandrous, sparingly ciliate on the keel. Flowers often diandrous and triandrous, larger and more ciliate. 3—4 f. *S.* P. C. M. T. N. Mch.

oryzoi′des, (2) (cut grass. W. Au. ♃.) panicle diffuse, sheathed at the base; flowers triandrous, spreading: keel of the glumes conspicuously ciliate. 3—5 f. *S.* Y. B. P. C. F. M. O. T. N. Mch.

lenticularis, Mx. (catch-fly grass. W. Ju. ♃.) panicle erect: flowers large, roundish, diandrous imbricate; keel and nerves ciliate. 2—4 f. C.

Leimanthium, Melanthium.

10—1. Lei′ophyl′lum. 50. Eric. f. aro. asp—.

buxifolium, P. (3) (sand myrtle, sleek leaf. w. ♄.) leaves small, lance-oval, entire, glabrous, lucid, revolute at the margin: corymbs terminal. 6—8 i. *S.* Y. S—C.

19—2. Lem′na. 7. Pist. acr—.

trisulca, (duck meat. W. ☼.) leaves thin, lance-oval, caudate at one end, serrate at the other: roots solitary. Water. N. T. Mch.

minor, (green duck meat. W. J. ☼.) leaves nearly ovate, compressed: roots solitary. Var. *cyclostasa*, leaves elliptic, flat on both sides, cohering in a circular arc: roots solitary. Water. *S.* Mch.

gibba, (W. ☼.) leaves obovate, nearly flat above, hemispherical beneath: roots solitary. Water. C.

polyrrhiza, (water flaxseed. W. Ju. ☼.) leaves round obovate, compressed: roots numerous, fascicled. The leaves of this species become purplish, and grealty resemble flaxseed scattered on the surface of stagnant waters. The roots rarely reach the ground; but merely extend downwards a few inches into the water. *S.* W. P. T. V. C. D. F. O. N. Mch.

6—1. Leontice. 78. Berb. ton. *rhe.*

thalictroides, L. (poppoose-root, false-cohosh. p. y. Ap. ♃. ♄.) very glabrous: leaves more than decompound; leafets oval; the lower ones lobed and petioled; the end ones 3-lobed: berries dark blue. 1 f. *S.* P. D. O. Mch. Canada. The roasted seeds have been used as a substitute for coffee. Caulophyllum thalictroides Mx. in 7th edition.

Leontice, Caulophyllum.

Ledum. Lat. *lædo*, to hurt; from its supposed qualities.

Leersia. In honor of John Daniel Leers, a German botanist.

Leiophyllum. Gr. *leios*, smooth, and *phŭllon*, leaf, in allusion to its foliage.

Lemna. Gr. *lenima*, a husk or shell, from the shape of the leaves. Theophrastus describes under this name an aquatic plant.

Leontice. Gr. *leon*, lion, *petalon*, leaf—abridged from the old name.

(1) Palustre, Mx. (2) Phalaris, L. (3) Amyrsine buxifolia, Ph. Ledum thymifolium, Lk.

17—1. Leon'todon. 53. Cich. sal. asc. ase.

tarax'acum, (dandelion. O. y. Ap. ♃.) outer involucre reflexed: scape 2-flowered: leaves runcinate, with toothed divisions. Introduced.

palustre, S. (marsh dandelion. ♃.) outer involucre scales short, erect, ovate: leaves sinuate-toothed, somewhat glabrous. *S.*

13—1. Leonu'rus. 42. Labi. fra. sto. car. ton.

Exotic.

cardi'aca, (mother-wort. w-r. Ju. ♃.) leaves 3-lobed, toothed, bases wedge-form: calyx prickly, less than the corol. Naturalized. 2—3 f.

marrubias'trum, W. (r. Au.) leaves lance-ovate, toothed: calyx somewhat prickly, as long as the corol. Naturalized. 2—4 f.

14—1. Lepid'ium. 63. Cruc. asc. dia.

virginicum, (1) (wild pepper-grass. O. w. J. ♂.) radical leaves pinnatifid: cauline ones lance-linear, somewhat gash-serrate: flowers 4-petalled, mostly with but two stamens: silicles lens-form. 12—18 i. *S.*

campestris, R. Br. (2) (J. Ju.) silicles ovate, winged, emarginate, scaly-punctate: cauline leaves sagittate, denticulate. N. Y. Delaware.

ruderale, L. (   ) flowers diandrous, apetalous: radical and cauline leaves pinnatifid or incised; branch leaves linear, very entire: silicles (small) broad-oval, emarginate, spreading: cotyledons incumbent. A.

menziesia, Dc. (   ) flowers diandrous, apetalous: radical leaves bi-pinnatifid: cauline and branch-leaves many, pinnatifid, upper ones linear, very entire. A Var. radical leaves hispid. Another Var. radical leaves pubescent. R.

Exotic.

sativum, (peppergrass. W. Ju. ☼.) leaves oblong, many-cleft.

integrifolium, N. (J. Ju. ♃.) glabrous and decumbent: silicles elliptical-ovate, wingless, scarcely emarginate: septum prominent: style short but distinct: leaves lanceolate-oblong, acute, narrowed below: petals about twice the length of the broad membranaceous sepals. Prairies near the Rocky Mts.

montanum, N. (♃.) nearly glabrous, decumbent: silicles elliptical, slightly emarginate, wingless: style conspicuous: leaves pinnatifid and bi-pinnatifid; segments oblong; uppermost leaves trifid or entire. Oregon.

Southern.

californicum, N. (☼.) stem somewhat hirsutely pubescent, much branched: silicles nearly orbicular, emarginate, wingless: flowers diandrous (petals 4): leaves nearly glabrous, laciniately pinnatifid. California.

lasiocarpum, N. (☼.) hispidly pubescent: silicles elliptical-oval, conspicuously emarginate, wingless, somewhat pubescent, reticulated, rather longer than the pedicels: leaves undivided, linear-lanceolate, incisely toothed: flowers diandrous, apetalous. California.

nitidum, N. (   ) glabrous: silicles elliptical-obovate, emarginate, slightly winged, shining: pedicels flattened, about the length of the silicles: leaves laciniate; the segments linear and very narrow: flowers apetalous or dipetalous, diandrous. California.

oxycarpum, T. (☼.) silicles broadly ovate, deeply emarginate, wingless, the valves pungently acuminate and reticulated: stems branched, diffuse: leaves linear-filiform, sparingly pinnatifid, toothed: flowers apetalous, diandrous. California.

latipes, Hk. (☼.) cespitose, strigosely pubescent: flowers in dense spiked racemes: silicles elliptical-ovate, 2-winged at the summit, reticulated: pedicels very broad, flat, leaves pinnatifid, with filiformly linear segments. California.

Leontodon. Gr. *leōn (leōntos)* lion, and *ōdous*, tooth, from the jagged edges of the leaves.

Leonurus. Gr. *leōn*, lion, and *oura*, tail; so named from its spikes resembling the tuft on the end of the lion's tail.

Lepidium. Gr. *lepis*, a scale; the form of the silicles being that of little scales.

(1) Senebiera pinnatifida, Dc. (2) Thlaspi compestre, L.

2—1. LEPTAN'DRA. 37. Scro. ton. cat.

virginica, (1) (culver's physic, tall veronica. O. w. Au. ♃.) spikes terminal, long: leaves whorled: stem erect. Var. *purpurea*, Ph. flowers purple. 3—8 f. S. Mch.

Leptanthus; SCHOLLERA.

10—2. LEPTAR'RHENA. 84. Saxi. ton—.

pyrolifolia, Br. (♃.) stem woody at the base, covered with rudiments of withered leaves: leaves ovate, coriaceous, petioled, glabrous above, shining, reticulate, margin crenate: flowers coarctate-panicled: pedicels and calyx covered with short, glutinous pubescence: sepals very short, obtuse: petals linear, longer than the calyx. R. A.

Leptarrhena, SAXIFRAGA.

5—2. LEP'TOCAU'LIS. 60. Umbe. r. res. ton. exp. cac.

inermis, N. (☉.) fruit unarmed, somewhat rugose: lobes of the leaves capillary: umbels 4—5-rayed: leafets of the involucels 3—4.

diffusus, N. (☉.) fruit with bristles somewhat close-pressed, muricate: branches and rays divaricate: umbels and umbellets 3-rayed; pedicels of the umbellets somewhat equalling the rays of the umbel. Stem erect, slender, branching at the apex: lobes of the leaves capillary: leafets of the involucels 1—2: pedicels half an inch long. R.

divaricatus, Dc. (2) (w. ☉.) Described under Æthusa.

patens, N. (☉.) fruit tuberculose-muricate: branches divaricate: rays of the umbels and umbellets 4—5, contracted: lobes of the leaves capillary. R.

echinatus, N. (☉.) fruit with spreading bristles, echinate: branches at length divaricate: umbels and umbellets sparingly diverging. R.

Leptochloa, OXYDENIA.

17—3. LEP'TOPO'DA. 55. Cory. r. exp-ton.

Southern.

fimbriata, W. (3) (y. Ap. ♃.) stem viscid-pubescent, striate: leaves alternate, lance-linear, half clasping, glabrous, punctate; cauline ones gash-toothed: chaff of the egret torn. 2 f. Florida.

decurrens, Macbride. (4) (y. Ap. ♃.) stem very glabrous: leaves lance-linear, toothed, glabrous, decurrent: chaff of the egret torn. 12—18 i.

3—2. LEPTU'RUS. 10. Gram. far. ton. sec-stim.

paniculatus, N. (W. J. ☉.) rachis incurved, compound, acutely triangular; branches and summit floriferous: spikes subulate, compressed, one-sided: glumes 2, acuminate, 1-flowered. 10 i.

5—3. LEPU'ROPE'TALON. E. (5) 84. Saxi. ast.

Southern.

spathulatum, M. (w. Ap. ☉.) glabrous: stem erect and procumbent, somewhat succulent, sub-angled: leaves alternate, sessile, lance-spathulate, obtuse, entire. 1—2 i.

Leptandra. Gr. *leptos*, slender, and *anēr (andros,)* stamen, in reference to its form.
Leptarrhena. Gr. *leptos*, slender, thin, *renos*, wool, flock, &c. Sed quere.
Leptocaulis. Gr. *leptos*, slender, *kaulos*, stem. Thin stem; perhaps scaly stem.
Leptopoda. Gr. *leptos*, slender, and *pous (podos)* foot or stem, from the weakness of the stem?
Lepturus. Gr. *leptos*, slender, and *oura*, tail, from its long, slender, cylindrical spike.
Lepuropetalon. Gr. *lepuron*, rind or peel, and *petalon*, a petal, from the appearance of the petals.

(1) Callistachia, R. Veronica, L. (2) Daucus divaricatus, Wr. Sison pusillum, Mx. Ammi divaricatum, and Ligusticum pusillum, Mx. Sison divaricatus, Spreng. Æthusa divaricata, N. (3) puberula, Macbride. Galardia, Mx. (4) Helenium N. (5) Pixidantherea, M.

16—10. LESPEDE'ZA. (1) 93. Legu. nut. asc. ape.

capitata, Mx. (2) (O. w-p. J. ♃.) leaves ternate, lance-oblong, obtuse, silky beneath: stipules subulate: racemes axillary, ovate, shorter than the leaves: legumes hairy, shorter than the calyx. 3—6 f. *S.* Mch.

angustifolia, Ph. (W. w-p. S. ♃.) leaves oblong. oval and lanceolate, hoary-pubescent beneath: racemes capitate, longer than the leaves: corol longer than the calyx. 3—5 f. *S.* P. C. F. H. M. Mch.

stuvei, N. (p. S.) erect, simple, soft-downy: leafets oval: spikes peduncled, scarcely longer than the leaves: legume naked, pubescent. 2--3 f. *S.* Y. P.

polystachia, Mx. (3) (W. w-r. Ju. ♃.) erect, branching, very villose: leafets round-oval: spikes axillary, long peduncled: corol and legume about equal to the calyx. 2—4 f. *S.* B. C. F. O. M. N. T. Mch.

sessiliflora, Mx. (4) (bush clover. O. p. Ju. ♃.) erect: leaves oblong: fascicles of flowers sessile, numerous: legume nearly naked, acute: calyx minute. Var. *reticulata*, stem simple, erect or erectish: leaves pubescent beneath. 1—3 f. *S.* Mch.

violacea, W. (5) (O. p. Ju. ♃.) leafets oval, obtuse: racemes umbelled, as long as the petiole: flowers in pairs: legume rhombic, reticulate, glabrous. 1—2 f. *S.* Mch.

procumbens, Mx. (6) (W. p. & y. Ju. ♃.) procumbent. slender, pubescent: leafets oval: peduncles very long: flowers in setaceous spikes: legumes naked: calyx minute. *S.* Y. P. B. C. F.

divergens, M. (7) (W. p. Ju. ♃.) diffuse, branched: leafets oblong, obtuse, close-pressed, hairy beneath: racemes longer than the petioles: flowers in pairs: legumes ovate, reticulate, smooth. Probably a variety of the violacea. 1—2 f. *S.* P. B. C. O.

repens, (p. Au. ♃.) leaves round-oval, emarginate: racemes axillary: legume repand-toothed: stem creeping. P. K.

prostrata, (W. ♃.) prostrate, slender, glabrous: petioles somewhat shortened: leafets oval. obtuse, mucronate, a little hairy beneath: racemes axillary. slender, with scattered florets longer than the leaves: calyx shorter than the corol: legumes ovate, sub-pubescent. P. New Jersey. Hedysarum prostratum. L. Mch.

Southern.

longifolia, (♃.) stem erect, angled, pubescent: petioles very short; leafets oblong, glabrous above, silk-silvery and close-pressed beneath: racemes fascicle-corymbed, many-flowered, axillary snd sub-terminal: legume shorter than the acuminate lobes of the calyx. Louisiana.

frutescens, (8) (♃.) erect, villose: petioles very short; leafets oval, obtuse, sub-mucronate, silk-hairy beneath: racemes axillary, sub-sessile, shorter than the leaves: calyx shorter than the corol: legumes hairy, shorter than the calyx. In Carolina. S—C.

villosa, N. (♃.) erect, branching, cotton downy: petioles sub-elongated; leaves oval, obtuse: spikes axillary, slender, thrice or four times longer than the leaves: calyx shorter than the corol and longer than the legumes. Hedysarum hirtum, L.

13—1. LEU'CAS. 42. Labi. fra. sto. car. ton.

Southern.

martinicensis, Br. ( ) leaves entire: whorls many-flowered, capitate. Probably introduced.

12—1. LEWIS'IA. 86. Port. muc-nut. lax.

Southern.

redivira, Ph. (W. w. Ju. ♃.) leaves radical, linear, somewhat fleshy, obtusish: scape 1—2-flowered: pedicel genticulate at the base: capsule oblong.

Lespedeza. Named by Mx. in honor of Lespedez, governor of Florida.

Leucas. Gr. *leukos*, white, so called on account of the whiteness of the flower.

Lewisia. In honor of Gen. Merriwether Lewis, the leader of the first expedition to the Rocky Mts.

(1) Hedysarum, W. (2) frutescens, W. (3) hirtum, W. (4) Hedysarum reticulatum, M. Medicago virginica, L. (5) divergens, Ph. (6) prostrata, Ph. (7) Hedysarum, M. (8) Hedysarum frutescens, L.

17—1. LIA'TRIS. 55. Inul. r. res. diu. ant. poi-ton.

squarrosa, W. (1) (W. r. Au. ♃.) stem simple: leaves long-linear, nerved; margin a little scabrous: raceme leafy, few-flowered: scales of the involucre leafy above, lanceolate, rigid, spreading. 2—3 f. S. C. Y. N. Mch.

scariosa, (2) (W. b. Au. ♃.) stem simple, sub-pubescent: leaves lanceolate, tapering to both ends, glabrous, with scabrous margins: involucre squarrose below, racemed, alternate, distant: scales spatulate, with membranaceous colored margins. S. P. Y. C. D. F. H. N. Mch.

spicata, W (3) (gay feather, button snakeroot. W. r. Au. ♃.) stem simple, tall: leaves linear, glabrous, ciliate at the base, nerved, and punctate: spike very long: flowers sessile: scales of the involucre linear-oblong, obtuse, close-pressed. 2—4 f. S. P. N. D. Mch.

pilosa, W. (p. S. ♃.) stem simple, pubescent: leaves linear, pilose, ciliate: heads racemose, lax: scales of the involucre oblong, obtuse: pedicels bracted. Var. *dubia*, E. stem striate, sub-pilose: leaves long, linear; lower ones lance-linear, punctate, acute, pilose and ciliate near the base, nearly glabrous towards the summit: racemes long, leafy. Perhaps a distinct species. Elliott. 2—3 f. S.

cylindrica, Mx. (W. p. Au. ♃.) slender, hirsute: leaves grass-like: spike few-flowered: involucre sub-sessile, cylindric, few-flowered; scales round at the summit, abruptly mucronate. 1—2 f. S. D. Mch.

Southern.

1. *Flowers in spikes or racemes: roots bulbous.*

pycnostachya, Mx. (W. S. ♃.) stem simple, hirsute: leaves straight, narrow-linear, pubescent: spike long: flowers clustered, sessile: involucre appressed, squarrose at the summit. 2—4 f.

graminifolia, Wr. (W. p. S. ♃.) stem simple, glabrous: leaves very long-linear, glabrous, nerved, margin sub-scabrous; midrib hairy above: flowers distant sub-sessile: scales of the involucre oblong, obtuse, mucronate, ciliate, appressed; inner ones colored. 2—4 f.

heterophylla, W. (S. ♃.) stem simple, glabrous: leaves lanceolate, glabrous, smooth; upper ones lance-linear, much smaller: heads spiked, short peduncled, sub-squarrose: scales of the involucre lanceolate, acute, naked. S—C.

aspera, Mx. (W. S. ♃.) stem somewhat branching, scabrous-pubescent: leaves lance-linear, very rough: heads short, spiked, distinctly alternate, solitary, sessile: scales of the involucre roundish, obtuse, connivent.

gracilis, Ph. (W. p. S. ♃.) stem slender, hairy, (glabrous, Ph.): leaves linear, glabrous, ciliate at the base: heads in racemes, about 7-flowered: scales of the involucre obovate, ciliate, appressed. A variety of the *pilosa*. N. 2—3 f.

tenuifolia, N. (p. S.) stem slender, glabrous: lower leaves crowded, linear, a little hairy at the base; upper ones setaceous: racemes very long: pedicels leafy: scales of the involucre oblong, mucronate. 2—4 f. S—C.

resinosa, N. (p.) glabrous: leaves linear, crowded: heads spiked, oblong, 4—5-flowered: scales of the involucre obtuse, appressed, resinous, at length hoary. 2 f. S—C.

secunda, E. (p. S. ♃.) stem reclining, pubescent: leaves linear, glabrous, sparingly ciliate at the base: racemes one-sided: scales of the involucre lanceolate, acute, appressed. 2—3 f. S—C.

sphaeroidea, Mx. (p. S. ♃.) leaves smooth; lower ones broad, lanceolate; upper ones narrow: flowers racemed, large, solitary, alternate: involucre sub-globose: scales oval, erect. 2—4 f.

elegans, Wr. (4) (O. p-r. Oc. ♃.) stem simple, villous: leaves lance-linear, sub-scabrous beneath: raceme cylindrical; flowers crowded: inner scales of the involucre ligulate, colored. 3—5 f.

pauciflosculosa, N. (♃.) leaves sub-coniform; lower ones lance-linear; upper ones linear, acute, glabrous: raceme very long, few-flowered: calyx somewhat 3-flower-

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Liatris. A name probably derived from Gr. *liazo*, to come forth.

(1) Serratula, L. (2) Serratula, L. Liatris squarrulosa, Mx, (3) macrostachya, Mx. Anonymous graminifolus, Wr. Serratula spicata, L. (4) Staehelina, W.

ed, pedicels filiform: scales of the involucre oblong, obtuse: stem finely pubescent. Alabama.

brachystachya, N. (♃.) very glabrous: leaves near together, linear, acute: spikes abbreviated, oblong: flowers close together: involucre squarrose, sub-5-flowered; divisions oblong, acute, inner ones colored. Spike 3 inches long. Arkansas.

virgata, N. (♃.) finely pubescent: leaves linear, scattered: racemes compound, branch-panicled; branchlets somewhat one-flowered, with small leaves: involucre sub-hemispheric, many-flowered; scales obtuse, appressed. Georgia and North Carolina.

2. *Flowers in panicles or corymbs; roots not bulbous.*

pauciflora, Ph. (♃.) stem simple, glabrous: leaves linear: panicle virgate, leafy; branches short, few-flowered: involucre sessile, secund, 3—5-flowered; scales erect, lanceolate, acute, glabrous.

paniculata, Wr. (p. S. ♃.) stem simple, hairy-viscid: leaves lanceolate, nerved, sub-glabrous: panicle contracted: involucre about 5-flowered; scales lanceolate. 1—2 f. S.

odoratissima, Wi. (p. S. ♃.) very glabrous: stem simple: leaves ovate and lanceolate, nerved, toothed, sub-glaucous: panicle corymbed: involucre 7—8-flowered; scales obovate, obtuse. 3—4 f.

tomentosa, Mx. (1) (p. S. ♃.) stem simple, and with the wedge-lanceolate leaves hirsute: corymb few-flowered, depressed-divaricate; branches few-flowered: involucre tomentose; scales ovate, acute. 2 f.

bellidifolia, Mx. (p. ♃.) low, sub-glabrous: leaves wedge-oblanceolate: corymb unequal: flowers all somewhat long-pedicelled: scales of the involucre oblong-oval, obtuse. 8—12 i. S—C.

wal'teri, E. (p. S. ♃.) stem simple, hairy near the summit: leaves lanceolate, acute, glabrous, punctate, at the base: involucre many-flowered: scales acute, tomentose. 2 f.

oppositifolia, N. (♃?) pubescent: leaves lanceolate, nearly opposite, nerved: stem branching; branches corymb-panicled: involucre cylindric-ovate, smallish, about 15—20-flowered; scales oblong, obtuse; inner ones colored: egret a little scabrous. Florida.

fruticosa, N. (p. ♄.) glabrous: stem fruticose: branches corymbed: leaves wedge-obovate, punctate: involucre sub-5-flowered: divisions acuminate. Florida.

squamosa, N. (♃.) pulverulent-canescent, corymbose: little corymbs 3—5-flowered: radical leaves linear, long; cauline ones appressed, very short: involucre sub-hemispheric; scales acute. Alabama.

5—2. Ligus'ticum. 60. Umbe. g-h. odo. exp. r. aro. exp.

scoticum, Mx. (w. Ju. ♃.) cauline leaves biternate; upper ones trifoliate; lateral leafets trapezoid, terminal one rhomboid: umbels stiffly erect: involucres linear, many-leaved. 18 i. B. Canada.

Exotic.

levisticum, (lovage, smellage. w. ♃.) leaves long, numerous; leafets above gashed. Strong-scented.

Ligusticum, Thapsia.

2—1. Ligus'trum. 34. Olea. b. bit. ast.

vulgare, (prim. W. w. J. ♄.) leaves lanceolate, acutish: panicle compact. Perhaps introduced. Indigenous in Missouri. Y. C. P. B. F. M. N.

6—1. Lil'ium. 14. Lili. diu. emo.

philadelphicum, (red lily. O. r. y. J. ♃.) leaves whorled, lance-linear: corol erect, bell-form, spreading; petals lanceolate, having claws. 1—3 f. S. Mch.

Ligusticum. Gr. *ligustikon;* so called from Liguira, in Italy, its native place.

Ligustrum. Lat. *ligo*, to bind, from the use made of its branches.

Lilium. Gr. *leirion*, lily, smooth, graceful; or from the Celtic, *li*, which signifies whiteness.

(1) corymbosa, N.

canadense, (nodding lily. O. y. r. Ju. ♃.) leaves remotely whorled, lanceolate: peduncles terminal, elongated, mostly in threes: corol nodding; petals spreading. 2—3 f. S. Mch.

superbum, (superb lily. W. y. p. Ju. ♃.) leaves-lance linear, 3-nerved, glabrous; lower ones whorled; upper ones scattered: flowers in a pyramid-raceme, recurved: petals revolute. 3—6 f. S. P. Y. C. T. B. Catskill.

catesbaei, Wr. (1) (southern lily. W. y. r. J. ♃.) leaves scattered, lance-linear: stem 1-flowered: corol erect; petals with long claws; margin undulate; apex reflexed. 1—2 f. S. P. S—C.

pennsylvanicum, Ker. (A. r. y. Ju. ♃.) leaves scattered, lance-linear; the uppermost ones whorled, about equal to the flowers: stem about 1-flowered, somewhat 5-sided: peduncles woolly; corol erect, woolly outside. P. Sandusky.

Exotic.

candidum, (white lily. w. J. ♃.) leaves lanceolate, scattered, tapering to the base: corol bell-form, glabrous within.

bulbiferum, (orange lily. y. J. ♃.) leaves scattered, 3 nerved: corol campanulate, erect, scabrous within.

Southern.

pudicum, Ph. (W. y. M. ♃.) leaves scattered, lance-linear: stem 1-flowered: corol bell-form, nodding; petals erect, sessile, spatulate-obovate, obtuse, flat within.

umbellatum, Ph. (2) (W. r. Ju. ♃.) leaves scattered, linear, short, acute; upper ones whorled: flowers 1—5, terminal, erect: petals unguiculate, lanceolate, spreading,

carolinianum, Mx. (y. r. Au. ♃.) leaves whorled and scattered, wedge-lanceolate: flowers few, (1—3,) terminal: peduncles thick: corol revolute. This may be a variety of the *superbum*, E. 2 f. S—C.

10—1. Limnan′thes. 73, Trop. asc. f. lax-con.

Southern.

douglassii, R. Br. (y. w.) leaves bipinnatifid; the divisions often alternate. Plant slightly succulent. California.

3—1. Limnet′is. (3) 10, Gram. far. ton.

cynosuroides, W. (4) (many-spiked salt-grass. W. Au. ♃.) spikes numerous (10—40) peduncled, panicled, spreading: leaves broad, flat, at length convolute: a short awn on one of the glumes: styles 2-cleft at the summit. 4—9 f. S. B. T. C. O. Peekskill. Mch.

juncea, Mx. (5) (rush salt-grass. L. Ju. ♃.) leaves 2-ranked, convolute, spreading: spikes few, (1—3) peduncled: peduncles smooth: paleas obtusish: styles 2. 18 i. T. B. C. Peekskill. M.

glabra, M. (L. W. Au. ♃.) leaves concave, erect: spikes alternate, sessile, erect, appressed: paleas smoothish on the keel: style deep-cleft. 3—5 f. S. B. C. Peekskill. M.

10—1. Limo′nia. 70. Aura. f. sto. ton.

Southern.

acidissima? L. (   ) leaves pinnate; leafets roundish-oval, crenate: spines geminate. Florida.

13—2. Limosel′la. 37. Scro. cat. eme. asc.

subulata, Ives. (mud wort. b-w. Au. ♃.) leaves linear, very narrow, scarcely dilated at the apex: scape 1-flowered, as long as the leaves. 1 i. Peekskill, Banks of Housatonic and Delaware rivers.

Limnanthes. Gr. *limnas*, water nymph, or marsh, *anthos*, flower.
Limnetis. Gr. *limnes*, a pool or marsh; from its place of growth.
Limonia. Arabic, *limoun*, lemon; to whose fruit this produces a relative.
Limosella. Lat. *limnus*, slime or mud; from its native soil.

(1) spectabile, Sy. carolinianum, Lk. (2) andinum, N. (3) Spartina, Sr. (4) polystachya and cynosuroides, Ph. (5) Trachynotia, Mx. Spartina, W.

2—1. LINDER'NIA. 37. Scro. cat. eme. asc.

attenuata, M. (false hedge hyssop. W. p. Au. ☉.) leaves lanceolate and obovate, narrowed at the base: peduncles shorter than the leaves, erect. *S.* C. F. H. N. T. Mch.

dilatata, M. (1) (pimpernel. W. b. Au. ☉.) leaves dilated at the base, clasping, remotely toothed: peduncles longer than the leaves. *S.* B. P. C. O. T. V. Mch.

monticola, M. (♃.) stem slender, dichotomous: radical leaves spatulate; cauline ones linear, small and remote: peduncles very long, at length deflected. 4—6 i. *S.* N.

Southern.

grandiflora, N. (♃.) leaves roundish, entire, nerveless, half-clasping: peduncles very long, axillary and terminal: stem creeping.

refracta, E. (b. J. ♃.) stem slender, erect, branching, glabrous: radical leaves spatulate-oval; upper ones subulate: flowers solitary, axillary and terminal: peduncles refracted after flowering. 8—12 i.

4—1. LIN'NÆA. 58. Capr. ch. dia—. lax.

borealis, W. (twin-flower. W. w-r. J. ♃.) stem prostrate: branches erect, each bearing two flowers: leaves roundish, crenate. Woods. H. N. T. B. C. D. V. Mch.

5—5. LI'NUM. 82. Line. s. muc. dem. cata. b. fac.

virginianum, (wild flax. O. y. Ju. ☉.) sepals acute: panicle terminal: flowers remotely alternate: leaves lance-linear, scattered; radical ones ovate. 1—2 f. *S.* Northern Lakes. Mch.

peren'ne, var. *lewisii*, Ph. (W. b. Ju. ♃.) divisions of the calyx ovate, acuminate: petals wedge-form, rounded at the apex: leaves scattered, lance-linear, mucronate: stems tall, numerous. R. Canada.

rig'idum, (W. y.) divisions of the calyx ovate, acuminate, 3-nerved, ciliate: petals oblong, narrow: leaves stiffly erect, linear, short. 6 i. B. Missouri.

Exotic.

usitatissimum, (flax. b. Ju. ☉.) sepals ovate, acute, 3-nerved: petals crenate: leaves lanceolate, alternate: stem sub-solitary.

Southern.

selaginoides, Lam. (w-r.) glabrous: stems a span high, suffruticose, corymbosely attached at the summit: leaves crowded, alternate, very small, linear and very narrow, mucronate piliferous: flowers terminal, sub-sessile, petals shorter than the calyx: ovary completely 10-celled. Texas.

Liparis, MALAXIS.

19—12. LIQUIDAM'BAR. 99. Plat. ton. aro.

sty'raciflu'a, (sweet gum. W. M. ♄.) leaves palmate, with acuminate lobes, serrate, villose at the meeting of the veins beneath. *S.* T. Y. P. N. F. M. S—C.

12—12. LI'RIODEN'DRON. 75. Magn. b. aro. bit. dia. rhe.

tu'lipife'ra, (white wood, tulip tree. W. y. r. J. ♄.) leaves truncate at the end, with 2 side lobes. A beautiful flowering tree. 90—150 f. *S.* F. T. Y. C. P. O. N. D. Mch.

Lindernia. In honor of Francis Balthazer Von Lindern, a physician and botanist of Strasburg.

Linnaea. In honor of Linneus, the great Swedish Botanist

Linum. Gr. *linon*, flax, from *lineo*, to hold, the fibres being well known for their tenacity. Llin, in Celtic, signifies thread.

Liquidambar. Lat. *liquidum*, fluid, and *ambar*, fragrant gum, alluding to the aromatic gum which exudes from the tree.

Liriodendron. Gr. *leirion*, lily, and *dendron*, tree, from the beauty of the flower.

(1) Pyxidaria, Ph. Gratiola inequalis, Wr.

5—1. Lisian'thus. 46. Gent. bit-ton.

glaucifolius, Jn? (W. y.) stem herbaceous, terete: leaves oblong-ovate, sessile, glaucous, acute, 3-nerved: flowers terminal, corymbed: peduncles elongated. T. & J.

18—1. Liste'ra. 21. Orch. r. amy. vis. aro. salep.

convallaroides, (1) (lily orchis. g-p. M. ♃.) stem with two round cordate, acute, opposite leaves: spike few-flowered: lip oblong, obtusely 2-lobed: germ sub-globose, root fibrous. 4—6 i. S. H. T. Catskill Mts.

cordata, Mx. (2) (g-p. M. ♃.) stem with two opposite, roundish-cordate leaves: raceme loose: column without any appendage behind: lip elongated, 2-toothed at the base, deeply bifid; segments sub-divaricate and acute. 4—8 i. N.

Southern.

pubescens, Ph. (3) (g-w. J. ♃.) leaves radical, ovate, acute; scape leafless, pubescent, lax-flowered: flowers pedicelled: lip 2-lobed, scarcely longer than the connivent petals: capsules clavate: root palmate.

5—1. Li'thosper'mum. 43. Bora. ton. vul.

arvense, (steen-crout, stone-seed, wheat-thief. O. w. M. ☉.) stem erect, branched: leaves lance-linear, rather acute, (lower ones obtuse,) veinless, hairy: calyx nearly as long as the corol; segments spreading: nut rugose. 8—15 i. *S.*

officinale, (gromwell. y. M. ♃.) stem erect, branching, scabrous: leaves lance-ovate, acute, nerved, scabrous above, hairy beneath: fruit-bearing calyx elongated, spreading: nuts 1 to 3, ovate, glabrous, often with hollowed punctures. 20—30 i. When this plant grows in rich shady woods the leaves are very broad. B. P. T. O. N. L. latifolium is a synonym.

maritimum, (4) (L. b. Ju. ♃.) very smooth: stem procumbent, branched: leaves oval-spatulate, fleshy: corol scarcely twice the length of the calyx.

denticulatum, Rs. (5) (p. J. ♃.) stem erect: leaves nerved, sub-glabrous, acute; margin scabrous, with minute teeth: radical ones ovate; cauline ones oblong: divisions of the calyx denticulate on the margin. 6—12 i.

pilosum, N. (y. ♃.) simple, pilose-hirsute: leaves linear, acuminate, sessile, approximate: flowers fascicled, sessile, smallish: divisions of the corol oblong, entire. R.

torreyi, N. (6) (J. ♃.) strigose-hispid: leaves oblong-linear, obtusish, scattered: stem low, branching: fascicles terminal, few-flowered: lobes of the corol oblong, entire. 9 i. R.

Southern.

angustifolium, Mx. (W. w. Ju. ☉.) nut turgidly ovate, shining, with hollow punctures on every part: flowers generally lateral: leaves linear, with close-pressed pubescence: stem procumbent.

apulum, W. (W. y. Ju. ☉.) nut muricate: spikes terminal, 1-sided: bracts lanceolate: leaves lance-linear, acute.

Lithospermum, Batschia.

—51. Lobe'lia. 52. Lobe. acr-nar. eme+. ast. exp. dia+.

dortmanna, (7) (water lobelia. b. Ju. ♃.) radical leaves linear, recurved, fistulous, with two cavities, entire: scape simple, racemose, somewhat naked: flowers remote, peduncled. *S.* T. Y. B. N.

cardinalis, (cardinal flower. O. r. w. Ju. ♃.) erect, simple, pubescent: leaves lance-ovate, acuminate, denticulate: racemes somewhat 1-sided, many-flowered: stamens

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Lisianthus. Gr. *lis*, smooth, and *anthos*, flower: or from Gr. *lusis*, dissolution, from its dissolving powers.

Listera. In honor of Martin Lister, an English physician and physiologist.

Lithospermum. Gr. *lithos*, stone, and *sperma*, seed; the seeds being very hard, and shining like little pebbles.

Lobelia. In honor of M. de Lobel, a distinguished German botanist.

(1) Epipactis, Sz. (2) Ophrys, Mx. (3) Epipactis, Ph. (4) Pulmonaria, L. parviflora, Ph. (5) Pulmonaria, Rs. sibirica, Ph. (6) L. decumbens, Y. (7) paludosa, N.

longer than the corols. Var. *alba*, flowers white. Goderich. U. C. Damp. 1—2 f. *S.* Mch.

siphilitica, (W. b. Ju. ♃.) erect, simple, hirsute, with short hairs: leaves lance-ovate; sub-serrate: raceme leafy: calyx hirsute, with reflexed sinuses. 18—24 i. *S.* T. Y. W. V. P. C. D. F. O. N. Mch.

infla'ta,* (wild tobacco. O. b. Ju. ♂.) erect, branching, very hirsute: leaves ovate, serrate: racemes leafy: capsules inflated. 12—18 i. *S.* Mch.

kalmii, (O. b. Ju. ⊙.) slender, erect, sub-simple: radical leaves spatulate; cauline ones linear, delicately toothed: flowers racemed, alternate, remote, pedicelled. Var. *gracilis*, has a minutely scabrous stem: peduncles shorter than the flowers: segments of the calyx longer than the capsule. 6—24 i. *S.* Mch.

claytoniana, Mx. (1) (O. b. Ju. ♃.) erect, simple sub-pubescent: leaves oblong, obtusish; radical ones entire; cauline ones denticulate above: raceme wand-like: bracts subulate. 18—24 i. *S.* Mch.

puberula, Mx. (W. b. Ju. ♃.) erect, very simple, pubescent: leaves oblong-oval, repand-serrulate: flowers spiked, alternate, sub-sessile: germs hispid: calyx ciliate. 2 f. *S.* P. Charleston, S, C.

Southern.

aphylla, N. (♃.) very small: stem filiform, sub-simple, scaly: peduncles remote, elongated. 4—6 i. Florida.

amoe'na, Mx. (b. Ju. ♃.) erect, very glabrous. (pubescent, E.): leaves broad-lanceolate, serrate: spike many-flowered, one-sided: divisions of the calyx entire: inferior divisions of the corol oval, acute. 2—3 f. S—C.

glandulosa, Wr. (b. S. ♃.) stem erect: leaves lance-linear, somewhat fleshy, denticulate: flowers in racemes. 1—2 f.

fulgens, Donn. (W. r. Ju. ♃.) erect, simple, sub-pubescent: leaves very long-lanceolate, attenuated, sub-entire: raceme many-flowered: stamens and pistils as long as the corol. 2—4 f.

michauxii, N. (2) (p. Ju. ⊙.) glabrous, branching above: leaves petioled, ovate, crenate-dentate; lowest ones roundish: racemes lax: peduncles elongated.

5—3. LOEFLINGIA. 30. Ille. ast—.

Southern.

squarrosa, N. (⊙.) glandular-pubescent, much branched: leaves subulate-setaceous and squarrose: stamens 3—5: stigmas sessile: capsule triangular, at length exserted. California.

3—2. LO'LIUM. 10. Gram. far. ton.

perenne, (darnel. M. ♃.) florets much longer than the glume, unarmed, linear-oblong, compressed. Introduced 18 i. B. P. C. M. N.

temulentum, (Ju. ⊙.) florets shorter than the glumes, as long as the bristle at their extremity: culm scabrous above. 2 f. P. Mch.

5—1. LONI'CE'RA. (3) 58. Capr. r. cat—. h. lax—.

hirsuta, Ea. (rough woodbine. y. J. ♄.) corol ringent, hairy: filaments bearded: leaves hirsute, abruptly acuminate; lower ones obovate; upper ones connate, (ovate, oval and obovate.) Flowers in whorled spikes, large: leaves ciliate, all very hairy. Stem twining around trees to the height of 20 to 30 feet. This species is remarkably different from all other species of the genus; being very rough and hairy. Found first two miles west of Williams College, Mass. where I saw hundreds in flower, climbing the trees and shrubs of an elevated ridge or hill,

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Loeflingia. In honor of P. Loefling, a Swedish botanist.

Lolium. Lat. *lolium*. *Loloa* is the Celtic name of this grass.

Lonicera. To commemorate Adam Lonicer, a physician of Frankfort, in the sixteenth century.

* This species was formerly considered annual, but the error has been shown by Dr. Coffin, of Troy.

(1) spicata, Lk. goodenioides, W. pallida, M. (2) cliffortiana, Mx. not L. (3) Caprifolium, J.

in the summer of 1817. It has since been found in Middlebury, Vt., Worcester, Mass., Troy and Fairfield. N. Y.* See Boston Flora, p. 88. 2d ed. D. V. Mch.

flava; Sims. (1) (W. y. J. ♄.) spikes with whorled heads: corol sub-ringent-like, with divisions oblong, obtuse: leaves ovate, glaucous beneath, with cartilaginous margins; upper ones connate-perfoliate. *S.* Catskill Mt.

parviflora, Lk. (2) (W. r-y. J. ♄.) spikes with whorled heads: corol ringent, gibbous at the base: filaments bearded: leaves deciduous, glaucous beneath, connate; floral ones perfoliate. *S.* T. N. Mch.

grata, A. (r. y. J. ♄.) spike with whorls very near each other: corol ringent-like, with a long tube: leaves perennial, obovate, sub-mucronate, net-veined and paler beneath; upper ones connate-perfoliate. *S.* Y. C.

sempervirens, A. (r. y. M. ♄.) spikes with distant, nakedish whorls: corols sub-equal: tube ventricose above: leaves ovate and obovate, glaucous beneath; upper ones connate-perfoliate. Leaves perennial. *S.* Y. P. C. D. Florida.

douglasii, (W. ♄.) branches twining: leaves oval, acute at both ends, petioled, glabrous, ciliate, downy outside, upper ones connate: flowers head-spiked: stigma exsert.

Exotic.

caprifolium, (honeysuckle. ♄.) corols ringent-like, terminal: sessile leaves connate-perfoliate at the top.

periclymenum, (woodbine. J. ♄.) flowers in ovate, imbricate, terminal heads: leaves all distinct. Var. *quercifolia*, leaves sinuate.

Southern.

ciliosum, Ph. (W. y. J. ♄.) spikes with whorled, approximate heads, sub-sessile: corol sub-equal; tube hirsute, ventricose in the middle: leaves somewhat clasping, sessile and petioled, ovate, glaucous beneath; margin distinctly ciliate; upper ones connate-perfoliate.

Lonicera, DIERVILLA, XYLOSTEUM.

Lopanthus, HYSSOPUS.

Lophiolia, CONOSTYLIS.

Lotus, TRIGONELLA.

4—1. LUDWIG'IA. 88. Onag. torr.

alternifolia, (3) (seed box. O. y. Ju. ♃.) erect, branching, sub-glabrous: leaves alternate, lanceolate, hoary beneath: peduncles axillary, 1-flowered: capsules 4-sided: divisions of the calyx large, colored, persistent. 1—3 f. *S.* Mch.

pilosa, Wr. (4) (y. Ju. ♃.) erect, branching, hirsute: leaves alternate, oblong, sessile, hirsute both sides: peduncles 1-flowered, axillary: capsules globose, quadrangular, winged, 2-bracted at the base. 2 f. *S.* Y. M. S—C.

uniflora, R. ( ) stem straight, simple: leaves alternate, lanceolate, acute, glabrous: flower terminal: petals longer than the calyx. Probably *alternifolia*. Torrey.

Southern.

mollis, Mx. (Au. ♃.) villous: stem erect, much branched: leaves lanceolate: flowers generally clustered: capsule globose, 2-leaved.

capitata, Mx. (5) (y. Au. ♃.) stem erect, virgate: leaves lance-linear, glabrous: flowers generally in terminal heads: bracts longer than the calyx.

pedunculosa, Mx. (y. J. ♃.) stem procumbent, radicant: leaves opposite, lanceolate: peduncles 1-flowered, longer than the leaves. 3—6 i. S—C.

Ludwigia. In honor of Ludwig, Prof. of Medicine at Leipsic, 1733.

(1) fraseri, Ph. (2) dioica & media, L. Caprifolium bracteosum, Mx. (3) macrocarpa, Mx. ramosissima, Wr. Rhexia linarifolia, Poir. (4) hirsuta, Ph. (5) suffruticosa, Wr.

*I published this species in the Manual in the year 1818, and repeated it in the succeeding editions. Afterwards Goldie came to this state, and also travelled in Canada, where he found it, and examined it with my Manual. In 1822 he published it as a new discovery, under the name Caprifolium *pubescens*, in the Edinburgh Phil. Journal.

linearis, Wr. (1) (y. r. ♃.) stem erect, branching, angled near the summit: leaves alternate, linear, glabrous, sub-serrulate: flowers axillary, solitary, sessile. 2 f. S—C.

polycarpa, (Oc.) erect, much branched: leaves narrow-lanceolate, acute at each end, alternate, glabrous: flowers apetalous? closely sessile, axillary and congregated: capsules spherical, two-leaved. 1 to 3 f. Discovered by H. A. Griswold, in wet lands around Louisville, Ky.

decurrens, Wr. (2) (W. y. Au. ☼.) erect, very branching, glabrous: leaves alternate, lance-oval, decurrent: flowers octandrous. 2 f. Charleston, S—C. K.

natans, E. (y. Ju.) swimming and creeping: leaves opposite, lance-spatulate: flowers axillary, sessile: petals as long as the calyx. Charleston, S—C.

Ludwigia, ISNARDIA.

14—1. LUNA'RIA. 63. Cruc. asc. dia.

Exotic.

annua, (honesty, satin pod. p. ♂.) leaves obtusely toothed: silicles oval, obtuse at both ends. Naturalized.

rediviva, (honesty. b-p. ♃.) leaves with mucronate teeth: silicles tapering to both ends. Flowers odorous.

16—10. LUPINAS'TER. 93. Legu. s. ano.

Southern.

macrocephalus, Ph. (3) (W. y. & p. M. ♃.) leafets nine, oblanceolate; petioles very long: stipules wedge-form, gash 3-toothed: teeth of the calyx filiform, plumose.

16—10. LUPI'NUS. 93. Legu. f. nut. g-f. asc.

perennis, (wild lupine. O. b. r-y. M. ♃.) stem and leaves smoothish: leaves digitate, with about 8 to 10 leafets, which are oblanceolate, obtusish: flowers alternate; calyx not appendaged: banner emarginate; keel entire. 12—18 i. S. Mch.

nootkatensis, Donn. (W. Ju. ♃.) stem and leaves hirsute: leaves digitate; leafets (7—8) lanceolate, obtuse: calyxes whorled, not appendaged: banner emarginate; keel entire.

decumbens, T. & J. (W. p.) suffruticose, sub-decumbent: flowers pedicelled, somewhat whorled, bracted: calyx silky-hirsute: banner and keel entire: leafets lance-oblong, acute and obtuse, silky beneath.

lepidus, Lind. (♃.) herbaceous: flowers alternate: pedicels without bracts: upper lip of the villose calyx, 2-parted, lower one acuminate, long: leafets 5 to 7-lanceolate, both sides silky: flower-stem erect somewhat 1-flowered. R.

minimus, Doug. (♃.) herbaceous: dense-silky-pilose, small: stem 1—2-leaved; leafets 7—9, lanceolate acute, attenuate below: flowers alternate and verticillate; pedicels without bracts: upper lip of the calyx bifid at the apex; lower lip entire: root small sub-fusiform. 6—8 i. R.

polyphyllus, Lind. (w. b. ♃.) herbaceous, tall: leafets 11—15, lanceolate, hirsute beneath: flowers alternate in a very long raceme, rarely sub-verticillate, bractless: pedicels longer than the deciduous, lanceolate bracts: both lips of the calyx entire: legumes very densely pilose. 3—4 f. R.

sericeus, Ph. (W. r. p. Ju. ♃.) stem and leaves silky-tomentose: leaves digitate; leafets (7—8) lanceolate, acute, silky both sides: calyxes somewhat whorled, not appendaged: banner gashed; keel entire.

ornatus, Doug. (♃.) flowers verticillate with a small appendage: upper lip of the calyx bifid: lower lip entire, long: leafets 7—12, lance-linear, both sides silvery tomentose: legumes 4—5-seeded. R.

arbustus, Doug. (♃.) flowers alternate, pedicelled, bracted: upper lip of the calyx bifid; lower lip entire, acute: leafets 7—13, obovate-oblong, silky both sides: legumes 3—5-seeded. A. R.

Lunaria. Lat. *luna*, moon, in allusion to the broad, round, silvery silicles.

Lupinaster. That is to say, *Lupine-like.*

Lupinus. Lat. *lupus*, a wolf: because this plant ravages the soil by overrunning it after the manner of this animal.

(1) angustifolia, Mx. (2) Jussiæa, Dc. (3) Trifolium megacephalum, Hk.

laxiflorus, Lind. (♃.) herbaceous; on all sides pilose: flowers sub-alternate, bractless: upper lip of the calyx entire, saccate at the base; lower lip longer, ovate-acuminate: keel beardless; banner ob-cordate: leafets 7—9-lance-linear: stipules very small subulate. A variety has the leafets linear, and calyx less saccate at the base. R.

littoralis, Doug. (♃.) flowers verticillate, pedicelled, bractless: both lips of the calyx entire: leafets 5—7, linear-spatulate silky both sides: legumes 10—12-seeded, transversely sulcate: roots granulated. R.

albicaulis, Doug. (♃.) tall: leaves numerous; leaves and stem minutely silky-pubescent, pubescence becoming somewhat tawney; leafets 7—9, lance-spatulate mucronate: flowers mostly verticillate. bractless: bracts when present subulate, sub-persistent, equalling the silky pedicels: calyx fulvous-silky, both lips entire. R.

aridus, Doug. (p. ♃.) herbaceous, silky-hirsute: flowers verticillate, pedicelled, bracted: upper lip of the calyx bifid, lower one entire: leafets 5—9-lance-linear, villose: stipules subulate. R.

leucophyllus, Lind. (♃.) herbaceous, very villose: flowers alternate, pedicelled, bracted: upper lip of calyx bifid; lower lip entire: leaves digitate; leafets 7—9, lance-oblong: stipules subulate, woolly. R.

plumosus, Doug. (♃.) silky-villose: flowers alternate, shortly pedicelled, bracted: upper lip of the calyx bifid: lower one entire: leafets 5—7, lanceolate: legume glabrous, 3—5-seeded: bracts longer than the flowers, villose, deciduous. North Carolina. R.

sabinii, Doug. (y. ♃. ♂?) erect, high: stem a little glabrous, striate: leaves with the hairs short, fulvous, silky: leafets 9—11, lanceolate, acuminate, attenuated to the base: flowers whorled, bractless: bracts if present, long, subulate, silky, deciduous: calyx very pilose, base gibbous; upper lip short-bifid; lower lip entire, reflexed; pedicels long: legumes silky-villose, fulvous, somewhat 4-seeded, terminated with the persistent style. R.

sulphureus, Doug. (y. ♃.) erect: stem angular-sulcate, with scattered, silky leaves: leafets 12—14. narrow, lanceolate, base and apex acuminate: bracts subulate, deciduous: flowers verticillate, bractless: calyx very silky, sub-gibbose at the base; upper lip sub-bifid, lower one longer, entire. A. R.

bicolor, Lind. (w. p. b. ☉.) stem branching. procumbent, leafy: stem and leaves pilose, scarcely silky: leafets 5—7, linear-spatulate: whorls few-flowered: calyx silk-woolly, without appendage; upper lip bifid, lower lip long, entire: wings longer than the banner: legumes many-seeded. R.

micranthus, Doug. (p. ☉.) flowers sub-verticillate, sessile, bracted: upper lip of the calyx bifid, lower one entire: leafets 5—7, linear-spatulate, ciliate: legumes 6-seeded, transversely sulcate: stem ramose: root granulated. R.

pusillus, Ph. (W. b. J. ☉. or ♂.) small and very hirsute: leaves digitate; leafets (5—7) wedge oblong, glabrous above: calyxes alternate, not appendaged: banner 2-parted; keel entire: legume about 2-seeded. 4—6 i.

Exotic.

albus, (white lupine. w. Au. ☉.) calyxes not appendaged, alternate: banner entire; keel 3-toothed.

hirsutus, (garden lupine. b. ☉.) calyxes appendaged, alternate: banner 2-parted; keel 3-toothed.

pilosus, (rose lupine. r. w. ☉.) calyxes appendaged, whorled: banner 2-parted; keel entire.

luteus, (yellow lupine. y. ☉.) calyxes appendaged, whorled: banner 2-parted; keel 3-toothed.

Southern.

villosus, (hairy lupine. w. r. p. J. ♃.) very villose: leaves simple, oblong: calyxes not appendaged, alternate in a long spike: banner 2-cleft; keel entire, long. Florida.

diffusus, N. (Ap. ♃.) villose, silky: stems numerous, diffuse, decumbent: leaves simple, oblong, obovate: petioles and stipules short, naked. S—C.

argenteus, Ph. (W. y-w. Ju. ♃.) leaves digitate; leafets (5—7) lance-linear, acute, glabrous above, silvery silkey beneath: calyxes alternate, not appendaged: banner obtuse; keel entire.

6—1. Luzula. (1) 13. Junc. ton—.

pilosa, (O. M. ♃.) leaves hairy: panicle sub-cymose: peduncles 1-flowered, reflexed: glume-like sepals acuminate, rather shorter than the obtuse capsule. 6 i. Mch.

campestris, (O. M. ♃.) leaves hairy: spikes sessile and peduncled: glume-like sepals acuminate, longer than the obtuse capsule. 1 f. *S.* Mch.

melanocarpa, Mx. (W. Ju.) culm leafy: leaves sub-lanceolate, smooth: panicles capillary, loose: flowers distinctly pedicelled: capsules black. White Mts.

spicata, W. (Au.) leaves narrow, hairy at the throat: spike nodding, compound: glume-like sepals acuminate-awned, about as long as the roundish capsule. 8 i. White Mts.

10—5. Lych'nis. 82. Lych. dem. cata.

apetala, (A. ♃.) calyx inflated: corol shorter than the calyx: stem about 1-flowered. R. Canada.

alpina, W. (r. ♃.) glabrous: flowers in dense umbelled heads: petals 2-cleft: styles 4. Labrador. Canada.

Exotic.

chalcedonica, (scarlet lichnis. r. J. ♃.) flowers fascicled, level-top, or convex.

viscaria, (clammy lichnis. ♃.) stem geniculate, viscous: petals entire: capsule 5-celled.

flos'cuculi, (ragged robin. ♃.) petals torn: capsule 1-celled, roundish.

4—1. Ly'cium. 38. Sola. dis. exp.

Exotic.

bar'barum. (matrimony vine. r. y. J. ♄.) stem angled: branches erect: leaves lanceolate, tapering to both ends: calyx mostly 3-cleft.

Southern.

carolinianum, Wr. (L. p. Ju. ♄.) unarmed: leaves clustered, narrow wedge-form, fleshy: flowers 4-cleft, tetrandrous. 3—5 f.

21—1. Lycopo'dium. 5. Fili. sec-stim.

1. *Spikes peduncled.*

clavatum, (club-moss. O. g. Ju.) stem creeping: branches ascending: leaves scattered, incurve-bristle-bearing, serrate: spikes in pairs or single, peduncled, cylindric: scales ovate, acuminate, erose-dentate. Woods. Mch.

complanatum, (ground-pine. W. g-y. Ju. ♃.) creeping, erectish: branches alternate, dichotomous: leaves bifareous, connate, spreading at the tips: spikes in pairs, peduncled. Woods. *S.* B. C. O. T. Mch.

carolinianum, W. (W. Ju. ♃.) stem creeping: leaves somewhat 2-ranked, spreading, lanceolate: peduncles erect, solitary, elongated, 1-spiked: bracts sub-lanceolate. *S.* P. Y. B. C.

sabinaefolium, W. (2) (W. Ju. ♃.) stem erect: branches alternate, dichotomous: leaves lanceolate, acute, pointing 4-ways, appressed, convex: peduncles solitary, 1-spiked; spikes terete: scales sub-cordate, acuminate.

2. *Spikes sessile: leaves surrounding the stem.*

dendroideum, Mx. (tree-weed. W. g. Ju. ♃.) erect: branches erect: leaves in six equal rows: spikes solitary, numerous. Woods. *S.* B. C. K. Mch.

Luzula. These plants were called by the old botanists *Gramen Luzule.*

Lychnis. Gr. *luchnos*, a lamp or lanthorn: either so called because its leaves were used as wicks, or from the resemblance of the calyx to a lanthorn.

Lycium. Gr. *Lukion.* So called, it is supposed from Lycia, its native country.

Lycopodium. Gr. *lukos*, wolf, and *pous*, (*podos*) the foot: from the incurved ends of the branches; or because the root was compared to a wolf's foot.

(1) Juncus, L. &. Mx. (2) alpinum, Mx.

obscurum, (Ju. ♃.) erect: branches spreading: leaves in six unequal rows: spikes one or few, solitary. B. C.

annotinum, W. (running ground-pine. W. Ju. ♃.) stem creeping: branches twice 2-parted, ascending: leaves pointing five ways, lance-linear, mucronate, spreading and serrulate near the tips: spike solitary, terminal. P. Canada. Mch.

inundatum, W. (Ju. ♃.) stem creeping, sub-ramose: branches simple, solitary, erect, 1-spiked at the top: spike leafy: leaves linear, scattered, acute, entire, curved above. Y. C.

alopecuroides, W. (Ju. ♃.) stem creeping, sub-ramose: branches simple, long, ascending, 1-spiked at the top: leaves linear-subulate, ciliate-toothed at the base, spreading: spike leafy. *S.* Y. P.

salaginoides, W. (Ju. ♃.) stem creeping: branches simple, ascending: leaves scattered, lanceolate, spreading, ciliate-toothed: spikes solitary, terminal, leafy. *S.* Y. P.

rupestre, (festoon pine. Ju. ♃.) stem creeping, branching: branches sub-divided, ascending: leaves scattered, lance-linear, ciliate, with hairs at the apex: spikes solitary, terminal. Rocks and gravelly banks. T. Y. N. P. B. Mch.

3. *Spikes sessile: leaves 2-ranked.*

albidulum, W. (Au. ♃.) leaves ovate, acute, denticulate, alternate, close-pressed: spikes terminal, long, 4-sided. *S.* P.

apodum, W. (Ju. ♃.) leaves round-ovate, acute, flat, denticulate with superficial alternating points: stem branching, rooting near the base: spikes terminal, sub-solitary. P. Y.

4. *Capsules axillary.*

lucid'ulum, Mx. (1) (moon-fruit pine. M. y. ♃.) stems assurgent, with a few longish branches: leaves spreading, shining, lance-linear, serrate, about in 8 rows. C. B. T. W. N. V. Mch.

celago, (A.) leaves scattered, entire, lanceolate, awnless, in 8 equal rows: stems dichotomous, erect, fastigiate. White Mts.

Southern.

tristachymum, Ph. (A. Ju. ♃.) stems erect: branches alternate, dichotomous, sub-compressed: leaves lanceolate, acute, appressed, pointing 4 ways: peduncles solitary, elongated, 3-spiked: spikes terete: scales roundish, acuminate.

5—1. LYCOP'SIS. 43. Bora. ton. honey-pti.

arvensis, (wild buglos. W. b. Ju. ☉.) hispid: leaves lanceolate, repand-toothed: racemes in pairs: flowers sessile. Probably introduced. *S.* B. C. N.

virginica, (w. J. ☉.) small, hispid: lower leaves spatulate; upper ones linear-oblong, entire: racemes solitary: flowers peduncled. *S.* B.

2—1. LYCO'PUS. 42. Labi. fra. sto. ton.

europæus, (2) (water hoar-hound. W. w. Ju. ♃.) lower leaves gashed; upper ones lanceolate, serrate: calyx acuminate-spined. Flowers small, whorled. Damp. 1—3 f. *S.* T. Y. P. C. V. B. N. F. O. Mch.

virginicus, (bugle-weed. W. w. J. ♃.) leaves broad-lanceolate, serrate, at the base narrowed and entire: calyx very short, spineless. Var. *quercifolius*, leaves sinuate-pinnatifid. Damp. 2 f. *S.* C. B. T. D. F. O. N. Mch.

uniflorus, Mx. (3) (w. J. ♃.) leaves lanceolate, sub-serrate, glabrous: suckers procumbent. A low plant, with flowers mostly solitary. Canada.

obtusifolius, Vahl. (♃.) leafets lanceolate, remotely and obtusely serrate. Hudson's Bay.

Lycopsis. Gr. *lukopsis*, from *lukos*, wolf, and *ops*, the eye; the small blue flowers having been compared to a wolf's eye.

Lycopus. Gr. *lukos*, wolf, and *pous*, foot; so named on account of a fancied resemblance between the cut leaves and a wolf's foot.

(1) reflexum, Sh. (2) angustifolius and sinuatus, E. exaltatus, Ph. vulgaris, P. americanus, M. (3) pumilus, Vahl.

17—1. LYGODES'MIA. 53. Cich. sal. asc. ase.

juncea, Don. (1) (♃.) stem very branching, striate: leaves linear-subulate: hairs of the pappus very numerous, scabrous. R.

minor, H. (♃.) stem very branching, obscurely striate: leaves linear-subulate, short: hairs of the pappus about 16, plumose. 10—24 i. R.

Lygodesmia, PRENANTHES.

21—1. LYGO'DIUM. 5. Fili. sec-stim.

palmatum, Sz. (2) (climbing fern. g-y. Au. ♃.) stem climbing, leaves palmate, 5-lobed; divisions lanceolate, obtuse: spikelets terminal, compound panicled. 3—4 f. *S.* Granby, Amherst. Mass. Near Camden, N. J. McNab.

Lyonia, ANDROMEDA, CYNANCHUM.

5—1. LYSIMA'CHIA. 35. Prim. sed. sop.

stricta, A. (3) (loose strife. O. y. Ju. ♃.) raceme terminal, very long, lax: leaves opposite, or in threes, lanceolate, sessile: petals lanceolate, spreading. 1—2 f. *S.* Mch.

thyrsiflora, (4) (O. y. J. ♃.) stem simple, smooth: leaves sessile, lanceolate, opposite, acute, paler beneath: racemes lateral, long-peduncled. Flowers small—appearance unlike the rest of the genus. 12—18 i. Mch.

quadrifolia, (5) (O. y. J. ♃.) pubescent: leaves sub-sessile, oval, acuminate, punctate, whorled, or in nearly opposite pairs, with axillary, 1-flowered peduncles: divisions of the corol oval, entire. Leaves vary from opposite, to seven in a whorl. 12—18 i. *S.* Mch.

ciliata, (moneywort. O. y. J. ♃.) sub-pubescent: leaves opposite, long-petioled, sub-cordate-oval; petioles ciliate: pedicels somewhat in pairs: flowers nodding. 2—4 f. *S.* Mch.

hybrida, Mx. (6) (W. y. J. ♃.) glabrous: leaves opposite, petioled, lanceolate, acute at both ends; petioles ciliate: flowers nodding: corol shorter than the calyx; divisions crenulate. P. Y. B. Niagara Falls. Mch.

revoluta, N. (W. y. J. ♃.) smooth: stem 4-sided, simple: leaves linear, sessile, tapering to both ends; margin revolute: peduncles solitary: divisions of the calyx lanceolate, very acute: segments of the corol round-oval, abruptly acuminate. 6—18 i. D. K. Mch.

quadriflora, Sims. (7) (W. ♃.) branching: stem smooth: leaves sessile, opposite, very long linear: peduncles in fours, sub-terminal, 1-flowered. 2—3 f. *S.*

Southern.

herbemon'ti, E. (♃.) flowers in terminal racemes: lower ones whorled; upper ones scattered: leaves in fours, lance-ovate, sessile, 3-nerved. 2 f. S—C.

lanceolata, Ph. (♃.) very glabrous, erect, simple: leaves in fours, sub-petioled, lanceolate, prominently acuminate: peduncles in fours, many-flowered: upper flowers racemed: divisions of the corol ovate, acute.

heterophylla, Mx. (W. Ju. ♃.) stem erect, glabrous, branching: lower leaves roundish; upper ones linear, sessile: flowers axillary, nodding: peduncles shorter than the leaves. 12—18 i.

angustifolia, Mx. (y. ♃.) very glabrous branching: leaves opposite and whorled, long-linear, punctate: racemes terminal, short: divisions of the corol oblong.

Lygodesmia. Gr. *lugodes*, pliant, *mia*, one, or *meiro*, to diminish. Sed quere.

Lygodium. Gr. *lugodes*, pliant, flexible, slender; from the habit of this elegant genus of climbing ferns.

Lysimachia. Named either after Lysimachus, a general of Alexander, or a king of Sicily; or from Gr. *lusis maches*, answering loose strife.

(1) Prenanthes juncea, Ph. (2) Hydroglossum, W. Ophioglossum, L. Cteisium paniculatum, Mx. (3) bulbifera, C. racemosa, Lk. (4) capitata, Ph. (5) heterophylla, N. angustifolia, W. (6) hirsuta, Mx. punctata, Wr. (7) longifolia, Ph.

11—1. Ly′thrum. 91. Sali. ast+. dia.

salicaria*, Var. *pubescens, Ph. (milk willow-herb p. Ju. ♃.) pubescent: leaves opposite and in threes, sessile, lanceolate, cordate at the base: flowers terminal, whorled-spiked: capsules oblong: stamens 12. 2 f. Canada. Mch.

verticillatum, (1) (swamp willow-herb, grass poley. W. p. Au. ♃.) pubescent: leaves opposite, or in threes, lanceolate, petioled. flowers axillary, somewhat in whorls: fruit globose. stamens 10. Wet. 2 f. S. T. N. Mch.

hyssopifolium, N. (dwarf grass poley. W. w. p. ♃.) leaves alternate and opposite, lance-linear and sub-oval: flowers solitary, axillary. Hexandrous. 6—10 i. C. St. Clair, Detroit.

Southern.

virgatum, W. (2) (W. p. Ju. ♃.) leaves opposite, lanceolate, glabrous: stem panicled: flowers axillary, in threes, pedicelled: stamens 12. S—C

alatum, Ph. (W. p. Ju. ♃.) very glabrous: stem winged: leaves opposite and alternate, closely sessile, sub-cordate, ovate-oblong: flowers hexandrous, axillary, solitary, sessile. 2—3 f. Marshes.

lineare, W. (w. Ju. ♃.) glabrous, virgate-panicled: leaves linear, somewhat opposite: flowers axillary, solitary, hexandrous. 3—4 f.

M.

13—1. Macbri′dea. 42. Labi. fra. sto. ton.

Southern.

pulchra, E. (p. & w. Au. ♃.) stem erect, simple: leaves opposite, lanceolate, acute, serrulate, punctate, ciliate, glabrous beneath, somewhat hairy above; upper ones sessile; lower ones attenuated at the base as if petioled. 12—18 i. S—C.

20—4. Maclu′ra. 98. Atro. nar. ton. ano.

Southern.

aurantiacea, N. (W. ♄.) leaves petioled, oval, acuminate, very entire, sub-mucronate, smooth and shining above: petiole and nerves minutely hirsute, pubescent beneath: fruit axillary, sub-sessile, surface verrucose. 20—30 f.

Macropodium, Pachypodium.

12—1. Macro′trys, R.* 61. Ranu. f. poi. r. asp. exp. ast. *asm. sh.*

racemosa, (3) (bug-bane, black snake-root, cohosh. W. w. Ju. ♃.) leaves decompound; leafets oblong-ovate, gash-toothed: racemes in wand-like spikes: capsules ovate. Woods. 3—9 f. N. Y. O. C. P. D. E. Hudson.

foetida, W. (W. Ju. ♃.) leaves decompound; leafets ovate, gash-toothed; teeth acute: raceme panicled, nodding: styles 5: capsules ovate, uncinate.

17—2. Mad′ia. 55. Cory. r. exp. ton. sec.

viscosa, H. (   ) flowers axillary, solitary, with many florets: rays conspicuous.

Lythrum. Gr. *luthron*, clotted blood; from the deep purple flowers.

Macbridea. In honor of Dr. Wm. Macbride, of Charleston, S—C.

Maclura. In honor of Wm. Maclure, the President of the Am.Geo. Soc.

Macrotrys. Gr. *makros*, large, and *botrus*, bunch or raceme, in allusion to its fructification. This genus has generally been spelled Macrotys, which is incorrect. Tully.

Madia.

(1) Anonymus aquatica, Wr. Decondon aquaticum, Gmel. verticillatum, E.

(2) lanceolatum, E. (3) Cimicifuga serpentaria, Ph. Actæa, L.

*I retain this genus, for the species *racemosa*. I yield to authorities in most cases. But in this case, I cannot submit to the absurdity; as no one can be better acquainted with the *cohosh*, than myself. I have seen hundreds in flower at the same time, in a bushy field and open woods, three miles south of Hudson, on Hudson River. In this field I drew the description, Gen. and Spec. A. E.

A var. has the flowers sub-sessile: rays small. Another var. has the flowers mostly pedicelled: rays large. R.

glomerata, H. ( ) flowers (2—4) glomerate, with few florets, disposed in a terminal corymb: rays obsolete. R.

12—12. MAGNO'LIA. 75. Magn. b. bit. aro. *rhe.*

glauca, (beaver tree, swamp laurel. W. w. J. ♄.) leaves oval, glaucous beneath: petals obovate, tapering to the base. Var. *latifolia*, has obtusish, deciduous leaves. Var. *longifolia*, has perennial leaves acute at both ends. *S.* P. Y. B. Baltimore, Florida.

acuminata, Mx. (cucumber tree. W. b-y. J. ♄.) leaves oval, acuminate, pubescent beneath: petals obovate, obtusish. 70 f. *S.* P. D. O. M.

tripetala, W. (1) (umbrella tree. W. w. J. ♄.) leaves large, wedge-obovate, acute; in the young state all over silky: petals 9, oval, acute; outer ones reflexed. 25—35 f. *S.* P.

Southern.

grandiflora, W. (big laurel, magnolia. W. w. M. ♄.) leaves evergreen, oval, thick, leathery: petals broad obovate, abruptly narrowed into a claw. Var. *elliptica*, leaves oblong-oval, ferruginous beneath: flowers somewhat contracted. Var. *obovata*, leaves oblong-obovate, flowers expanded. Var. *lanceolata*, leaves oblong-lanceolate, curved at the apex, both sides colored alike: flowers somewhat contracted. 60—80 f. Florida. S—C.

macrophylla, Mx. (W. w. J. ♄.) branches fragile: leaves very large, oblong, sub-cuneate-obovate, sinuate and auricled at the base, glaucous beneath: petals 6, ovate, obtuse. 30—35 f. Florida.

cordata, Mx. (W. A. y. M. ♄.) leaves broad-oval or lance-ovate, sub-cordate, sub-tomentose beneath: petals lance-oblong, acute. 20—40 f. S—C.

pyramidata, Bartram. (Ap. ♄.) leaves rhomb-oboval, abruptly acute, both sides colored alike, sub-cordate and auricled at the base; lobes divaricate: petals lanceolate, gradually acute.

Mahonia, BERBERIS.

Majanthemum, CONVALLARIA.

Malachodendron, STUARTIA.

18—1. MALAX'IS. 21. Orch. r. amy. aro.

liliifolia, (2) (twayblade. W. w. y. p. J. ♃.) leaves 2, lance-ovate or oval: scape 3-cornered: inner petals filiform, reflexed, 2-colored; lip concave, obovate, mucronate. This species is often mentioned as somewhat rare; but I have seen hundreds in flower at one time along the north side of Pine rock, New Haven. 4—8 i. *S.* C. T. F. N. Mch.

longifolia, B. (3) (W. y-g. J. ♃.) bulb roundish: scape 2-leaved: leaves broad-lanceolate, longer than the scape: spike oblong: lip cordate, concave, channelled, shorter than the petals. 3—7 i. T.

loeselii, (y.) leaves two, lance-ovate: scape 3-cornered: lip ovate, recurved at the apex. Damp. In New England. Hitchcock.

Malaxis, MICROSTYLIS.

15—12. MAL'OPE. 74. Malv. muc.

Southern.

malacoides (4) (y. ☼.) leaves oblong, obtuse, entire, crenate, glabrous above: peduncles solitary, axillary. 12—18 i.

Malus, PYRUS.

Magnolia. In honor of Peter Magnol, a botanist of Montpelier.

Malaxis. Gr. *malakia*, softness, expressive of the delicacy and softness of these plants.

Malope. Supposed to be a corruption of *malache*, mallows.

(1) umbrella, Lk. (2) Ophrys, L. (3) correana, B. (4) Malva americana.

15—12. MAL'VA. 74. Malv. moi.

rotundifolia, (low mallows. O. r. w. J. ♃.) leaves heart-orbicular, obsoletely 5-lobed: peduncles bearing the fruit declined: stem prostrate. Probably introduced. Mch.

rivularis, Doug. (r.) stem herbaceous, stellate-hairy: leaves a little scabrous, cordate, deeply 5 to 7-cleft: lobes acute: peduncles terminal and axillary, 6 to 8-flowered. Rocky Mt. and west.

hederacea, Doug. (r. ♃.) stem short, procumbent: peduncles axillary, 1-flowered: petals stellate-hairy. West of Rocky Mt.

houghtonii, T. (Ju. Au. p.) stellately hairy: stem herbaceous, erect? leaves crenate, deltoid-ovate, the radical ones cordate at the base: flowers in a loose terminal panicle: bracteoles 3, linear-spatulate: carpels numerous, not wrinkled. N. W. Territory. Illinois.

munroana, Dougl. (J. ♃. r.) lower leaves cordate-orbicular, toothed; upper ones somewhat trifid and incised, pubescent: flowers fascicled, somewhat spiked; peduncles declined in fruit: bracteoles 2 to 3, slender, deciduous: carpels 8 to 10: Oregon. This is the *Nuttallia* Munroana of the 7th edition.

plicata, N. (♃.) stellately and somewhat canescently tomentose, rather thick: stem prostrate, flexuous: leaves reniform-cordate, undivided, crenately serrate, somewhat plicate: flowers nearly sessile, solitary: petals stellately pubescent on the back: Oregon.

Exotic.

sylvestris, (mallows. r-b. J. ♂. and ♃.) stem erect: leaves about 7-lobed, acutish: peduncles and petioles hairy.

crispa, (curled mallows. Au. ☉.) stem erect: leaves angular, crisped: flowers axillary, glomerate.

moschata, (musk mallows. ♃.) stem erect: radical leaves reniform, gashed: cauline ones 5-parted, pinnate, many cleft: leafets of the involucre linear. Naturalized.

virgata, (whip-stalk mallows. r. ♃. and ♄.) leaves deeply 3-lobed, toothed, wedge-form at the base: peduncles in pairs, longer than the petioles.

Southern.

abutiloides, (p. Ju. ♃.) leaves with 5 angular lobes, tomentose: peduncles 2-cleft, about 4-flowered, axillary: capsules many-seeded.

caroliniana, W. (r. Au. ☉.) leaves 5-lobed or palmate, gash-toothed: peduncles longer than the petioles: petals entire: fruit villose: stem prostrate. New Orleans. Florida.

triangulata, (1) (p. Ju.) hirsute, sub-decumbent: lower leaves triangular-cordate: upper ones 3 to 5-lobed, irregularly toothed: flowers racemed. 12—18 i.

obtusa, T. ( ) stem prostrate: leaves cordate-orbicular, obtusely 5-lobed; petioles elongated, pubescent: peduncles axillary, several together, much shorter than the petioles, declined in fruit! segments of the calyx short, obtusely triangular: involucre 3-leaved, the bracteoles setaceous: carpels numerous, strongly wrinkled. California.

fasciculata, N. ( ) stellately and canescently pubescent: stem nearly simple: leaves roundish-cordate, somewhat 3-lobed, on short petioles: rather thick, crenate: flowers in somewhat distant leafless fascicles on the upper part of the stem; pedicels very short: segments of the calyx short, acuminate: bracteoles 3, subulate: carpels about 10. California.

involucrata, T. (r.) hirsute: stem branching, procumbent: leaves deeply 3 to 5-parted; segments linear-lanceolate, laciniately 3 to 5-toothed: flowers few, in a loose panicle; peduncles erect, 1-flowered, longer than the leaves: bracteoles 3, linear-lanceolate, two thirds the length of the deeply-parted calyx. Texas.

digitata, T. (♃. p.) glaucous and nearly glabrous: leaves deeply 6 to 7-parted; segments linear entire or 2-cleft, the uppermost entire: flowers few, solitary or somewhat paniculate, on long peduncles: calyx naked, glabrous. Arkansas. Texas. Nuttalia digitata of 7th edition.

pedata, T. (♃. p.) somewhat scabrous with stellate hairs: leafets pedately 5 to 7-

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Malva. As if *molva*, from Lat. *mollis*, soft, expressive of the softness of its leaves: or from the Gr. *malakē*, soft, in allusion to the soft mucilagenous qualities of the species.

(1) M. C. Lavenworth. retusa, W.?

parted; segments laciniately toothed: flowers on elongated peduncles in a loose panicle: calyx naked, slightly hirsute. Arkansas. Texas. 2—4 f.

16—12. Mal'vavis'cus. 74. Malv. muc.

Southern.

floridanus, N. (r. ♃.) pilose, hirsute, herbaceous: leaves cordate-ovate, crenate obtusish, small, short-petioled: peduncles axillary, nodding, towards the end of the branches. Florida.

drummondii, (♃. r.) stem and lower surface of the leaves minutely tomentose: leaves broadly-cordate, somewhat 3-lobed, coarsely and crenately toothed: petiole about half as long as the lamina: flowers solitary on axillary peduncles, or several together on short flowering branches: involucel 8-leaved, the folioles spatulate, nearly as long as the calyx, erect: column twice as long as the corol: carpels connate. Texas.

Mammillaria, Cactus.

3—2. Manisu'ris. 10. Gram. far. ton.

Southern.

granularis, (S. ☼?) glumes of the globose fertile floret verrucose, tesselated; stem erect, branching: sheaths hirsute. 2—3 f.

3—1. Mapa'nia. 9. Cype. far. ton. nut. sug.

Southern.

sylvatica, (W. Ju. ♃.) culm at the base covered with imbricate, lanceolate leaves or scales.

3—1. Maris'cus. (1) 9. Cype. far. nut. sug.

retrofractus, (Ju. ♃.) umbel simple; rays long: spikes obovate, imbricate backwards; spikelets subulate, at length bent backwards: involucre 3-leaved. 18 i. *S.* P. Y.

echinatus, (2) (hedge-hog club-rush. W. Ju. ♃.) umbel simple; rays short; spikes globose: flowers spreading. Var. *tenellus*, T. (L.) culm acutely triangular, slender; involucre 3 to 5-leaved; 3 of the leaves many times longer than the umbel. 6—18 i. *S.* Y.

Southern.

cylindricus, E. (Ju.) stem obtusely 3-angled, glabrous: umbels simple; heads cylindric; spikes lanceolate, sub-compressed, few-flowered, (2—5:) expanding. 2—3 f.

Mariscus, Cyperus.

13—1. Marru'bium. 42. Labi. fra. sto. car. ton.

vulgare, (horehound. O. w. Ju. ♃.) leaves round-ovate, toothed, rugose-veined: calyx toothed, setaceous, uncinate. Introduced. *S.*

17—1. Marshal'lia. (3) 55. Heli. s. ole. sto.

Southern.

lanceolata, Mx. (p. M. ♃.) stem simple, naked near the summit, leafy below; radical leaves obovate; cauline ones long-lanceolate: scales of the calyx oval: chaff spatulate. 18—24 i.

latifolia, Mx. (A. ♃.) stem simple: leaves lance-oblong, acuminate, 3-nerved; lowest

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Malvaviscus.

Manisuris. From *manis*, the scaly lizard, and *oura*, a tail: the appearance of its scaly spikes bearing an apt resemblance to the covering of that animal.

Mapania. Gr. *mapaino*, to become emaciated, in allusion to the appearance of this grass.

Mariscus. From the Celtic word *mar*, a marsh, relating to the places where it grows.

Marrubium. From Marrubium, (Maria urbs) a town in Italy.

Marshallia. In honor of Humphry Marshall, author of Arbustum Americanum, published in 1778.

(1) Scirpus, L. (2) ovularis, Vahl. Kyllingea ovularis, Mx. (3) Persoonia, Mx. Trattenickia, P.

ones sheathing: scales of the calyx acute: chaff of the receptacles narrow-linear.
angustifolia, Mx. (W. p. Ju. ♃.) stem branching: lower leaves narrow-lanceolate; upper ones linear: scales of the calyx rigid, subulate: chaff linear. Var. *cyananthera*, E. stem simple, very pubescent near the top: leaves lance-linear, 3-nerved: scales of the calyx lanceolate, acuminate. 2 f.

13—2. Marty'nia. 40. Peda. h. cat. f. lax. poi—.

proboscid'ea, W. (1) (unicorn plant. W. w. p. y. Ju. ☉.) stem branching: leaves alternate, cordate, entire, villose. Fruit somewhat gourd-like, with one long horn. 1—2 f. S. F. H.

17—2. Matrica'ria. 55. Anth. sec-sti. ton-

Exotic.

chamomilla, W. (wild chamomile. w. M. ☉.) leaves bipinnate: scales of the involucre obtusish.

5—1. Meconella. Papa. nar. sed. ano.

oregana, N. (y-w. ☉.) stem slender, dichotomously branched: radical leaves in a rossulate cluster, spatulate; cauline ones linear or linear-spatulate, opposite; the lowermost ternate, entire: peduncles axillary, filiform, 1-flowered; flowers very small. 3—5 i. Oregon.

12—1. Meconop'sis. 62. Papa. sed. cat.

diphylla, Mx. (2) (W. M. ♃.) stem with two twin leaves near the summit: leaves sessile, lobe pinnatifid: peduncle solitary, 1-flowered: capsule oblong-ovate. S.

Southern.

heterophylla, Benth. (r. ♃.) leaves few and remote, pinnately divided; segments of the lower ones ovate, incised and petioluled; of the upper linear, entire, somewhat confluent. 1 f. California.
crassifolia, Benth. (y-r. ♃.) stem leafy at the base: leaves rather thick, glaucous, pinnately divided; the segments incisely lobed, with revolute margins; those of the lower leaves ovate-cuneiform, of the upper linear-cuneiform. California.

Medea, Dodecatheon.

16—10. Medica'go. 93. Legu. f. nut. g. asc.

lupulina, (hop medick, nonesuch, Dutch clover. O. y. J. ☉.) spikes oval; legumes reniform, 1-seeded: stipules entire: leaves obovate; stem procumbent. S.

Exotic.

intertexta, (y. Au.) peduncles somewhat 2-flowered: legumes spiral, oval: prickles pubescent, setaceous, 2-ranked, appressed: stipules ciliate toothed; leafets obovate, dentate. Naturalized.
sativa, (lucerne medick. p. Ju. ♃.) peduncles racemed; legume smooth, cochleate: stipules entire: leaves oblong, toothed. Naturalized.
tribuloides, (hedge-hog. ☉.) peduncles 2-flowered: legume cochleate, cylindric, flat both sides, aculeate, conic 2-ways, reflexed: stipules toothed: leaves toothed, obovate.
scutellata, (snail-shell, bee-hive. Ju. ☉.) peduncles about 2-flowered: legumes unarmed, cochleate in an orbicular form, with a convex base and a flat top: stipules toothed: leaves oblong, toothed.

Southern.

maculata, W. (p.) stem prostrate: leafets obcordate, toothed, spotted: stipules toothed:

Martynia. In honor of John Martyn, late Professor of Botany at Cambridge.
Matricaria. Lat. *matrix*, womb, from its efficacy in diseases of females.
Meconella. Gr. *mecon*, a poppy, terminated by a diminutive—little poppy.
Meconopsis. Gr. *mekōn*, a poppy, and *opsis*, appearance.
Medicago. Gr. *medikē*, so named from having been introduced by the Medes into Greece.
(1) annua, L. alternifolia, Lk. (2) Chelidonium, Mx. Hytophorum, N.

peduncles 3 to 5-flowered: legumes compactly spiral, furrowed on the margin, and fringed with a double row of long curved spines: seeds reniform, yellowish. La.

denticulata, W. (p.) nearly glabrous: stem prostrate: leafets obcordate: stipules laciniate: peduncles 2 to 5-flowered: legumes broad, loosely spiral and flat, with 1 to 3 convolutions, reticulated: the margin thin, keeled, with a double compact row of subulate curved prickles. 1—2 f. La. California.

Medeola, GYROMIA.

13—2. ME'LAMPY'RUM. 36. Rhin. nar. ast.

americanum, Mx. (1) (cow-wheat. O. y. Ju. ☉.) slender: lower leaves linear, entire; floral ones lanceolate, toothed behind: flowers axillary, distinct. Var. *latifolium*, has very broad leaves. Woods. *S.* Mch.

brachiatum, Sz. & Say. (W.) stem terete, subscabrous, naked, below, with long, naked, ascending, opposite or whorled branches. leaves entire, rugose and scabrous on both sides, attenuated into the petiole, 6—8 i.

6—3. MELAN'THIUM. 13. Smil. diu. dem.

virginicum, W. (2) (black flower. W. w. becoming black. J. ♃.) panicle pyramidform: petals oval, sub-hastate, flat, with two spots: flowers mostly perfect. 2—3 f. *S.* P. Y.

hybridum, Wr. (3) (bunch flower. W. w. J. ♃.) panicles racemed above, pistillate: petals roundish, having claws, undulate-plaited, hardly spotted, hirsute outside. 2 f. *S.* P.

glaucum, N. (W. g-w. Ju.) root bulbous: leaves glaucous, margined: racemes mostly simple, few-flowered: petals roundish unguiculate, with two peculiar spots: seeds subulate, alated. 1—3 f. Northern Lakes. Canada. Mch.

Southern.

monoicum, Wr. (A. Ju. ♃.) panicle with the lower flowers staminate; upper ones pistillate and racemed: petals oblong, flat, with short claws: styles half as long as the germ.

17—1 ME'LANAN'THERA. 55. Heli. s. ole. +.

Southern.

hastata, Mx. (4) (w. S. ♃.) leaves hastate, 3-lobed: chaff of the receptacle lanceolate, acuminate. Var. *lobata*, leaves deeply 3-lobed. Var. *pandurata*, leaves slightly 3-lobed, panduriform. 4—6 f. Charleston, S—C.

10—1. ME'LIA. 71. Meli. feb.

Southern.

azedarach, (bead tree. ♄.) leaves doubly-pinnate: leafets smooth, ovate, toothed. 30—40 f. Florida.

3—2. MELICA. 10. Gram. ton. cat.

speciosa, M. (5) (melic grass. J. ♃.) smooth: panicle loose, erect, few-flowered: branches simple: florets obtuse. 3—4 f. *S.* P. Charleston, S—C.

Southern.

diffusa, Ph. (J. ♃.) panicle diffuse, very branching: flowers acute, beardless: stem erect, pubescent. K.

Melampyrum. Gr. *melas*, black, and *puros*, wheat; the fruit being similar to wheat, but giving a singularly black color to wheat in which it is ground.

Melanthium. Gr. *melas*, black, and *anthos*, flower; from their color.

Melananthera. Gr. *melas*, black, and Lat. *anthera*, anther.

Melia. Gr. *melia*, the ash; because this tree resembles the ash in its leaves.

Melica. Varied from Meline, the name of a sort of grass, resembling Panicum.

(1) lineare, Lk. (2) Helonias virginica, Bot. Mag. (3) latifolium, Lk. racemosum, Mx. (4) Bidens nivea, W. Athanasia, Wr. (5) glabra, Mx.

16—10. Melilo'tus. (1) 93. Legu. f. nut. g. asc.

vulgaris, (2) (yellow melilot-clover. y. J. ⊙.) stem erect: leafets oblanceolate, mucronately serrulate: banner and wings *equal:** racemes axillary sub-panicled; the longest raceme 3 to 5 times as long as the longest leafet at its base: legumes oval. 2 to 4 f. Unquestionably indigenous from Glenn's Falls on the Hudson River, to the Highlands. S. T. P. C. B.

alba, (3) (white melilot-clover. w. J. ⊙.) stem erect: leafets variable (oval, ovate, obovate, and oblanceolate) mucronately serrulate: banner *longer** than the wings: racemes axillary, panicled; the longest raceme 6 to 10 times as long as the longest leafet at its base: legumes oval. 3 to 6 f. Flowers and legumes smaller than the preceding species and the stem more robust. Probably introduced; but now very common and growing wild. Both species sweet scented. S. T. P. C. B.

Southern.

parviflora, Desf. (⊙. y.) stem ascending or erect, with spreading branches: leafets of the lower leaves obovate-roundish and often nearly entire; upper ones cuneate-oblong or linear, truncate or emarginate serrate: stipules linear-setaceous: spikes at first dense, at length rather loose: flowers minute: teeth of the calyx broad, rarely equal, half the length of the corol: wings almost as long as the keel and vexillum: legumes globose-ovate, wrinkled, 2-seeded. La. Probably introduced.

occidentalis, N. (y.) stem erect, tall: leafets linear-oblong or obovate, sharply serrate, truncate at the extremity: flowers minute: teeth of the calyx unequal, as long as the tube: vexillum as long as the tube: legume 1—2-seeded, ovate-orbicular, slightly wrinkled. California.

Melilotus, Psoralea.

13—1. Melis'sa. 42. Labi. fra. sto. car. ton.

Exotic.

officinalis, (balm. w. b. Ju. ♃.) flowers whorled half way around, sub-sessile: bracts oblong, pedicelled: leaves ovate, acute, serrate. Naturalized.

19—15. Melo'thria. 97. Cucu. nut. ref. cat.

pendula, (creeping cucumber. y. J. ⊙.) leaves sub-reniform, lobe-angled; terminal lobe equalling the rest: berry cylindric, ovate. S. T. P. S—C.

20—12. Menisper'mum. 77. Menis. ♄. ton. diu. *dysp.*

canadense, (moonseed. O. w-y. Ju. ♄.) stem climbing: leaves sub-cordate, round angled, peltate, with the petiole near the base: racemes compound: petals 8. Var. *lobatum*, Ph. (4) leaves lobed. S. Mch.

Southern.

smila'cinum, W. (5) (W. y. Ju. ♄.) leaves peltate, sub-glabrous, cordate, roundish, obtusely angled, glaucous beneath: racemes generally simple: petals 4.

lyoni, Ph. (W. Ju. ♃.) leaves cordate, palmate-lobed, very long petioled: racemes simple: petals 6: stamens 12.

Melilotus. Gr. *meli*, honey, and *lōtos*, lotus; these plants are similar to the lotus and the favorite resort of bees.

Melissa. Gr. *melissa*, a bee, from that insect frequenting the flowers.

Melothria. Gr. *melon*, fruit, and *thrion*, food; in allusion to some species.

Menispermum. Gr. *mēnē*, the moon, and *sperma*, seed; from its crescent shape.

(1) Trifolium, L. (2) officinalis? (3) Var. alba? I adopt the genuine names of old authors; because the descriptions of modern authors are either very deficient, or they did not have our plants before them. Whereas the figures and discriptions of the older authors, show that they were acquainted with both of our species, which they called by those names See Parkinson, p. 718, London ed., A. D. 1640. (4) M. virginicum, W. (5) Cissampelos, W.

*Suggested by H. H. E.

13—1. MEN'THA. 42. Labi. aro. coo-ole. car: *fla col.*

tenuis, Mx. (1) (america spear-mint. O. w. J. ♃.) glabrous: leaves lance-ovate, serrulate, petioled: spike slender, terminal, with small interrupted whorls: stamens not exsert. 1—2 f. *S.*

canadensis, W. (W. w-p. Au. ♃.) flowers whorled: leaves lanceolate, serrate, petioled, pilose: stamens equalling the corol. 12 i. Y. C. Canada.

borealis, Mx. (northern mint, horse mint. O. w. Ju. ♃.) ascending, pubescent: leaves petioled, lance-oval, acute at both ends: flowers whorled: stamens exsert. Damp. 9—18 i. *S.* Mch.

viridis, (spear-mint. W. p. Au.) leaves lanceolate, sessile: spikes elongated, interrupted: stamens long. 1—2 f. P. B. T. C. N.

Exotic.

piperita, (peppermint. W. p. Au. ♃.) spikes obtuse, interrupted below: leaves subovate, somewhat glabrous, petioled: stem glabrous at the base. Naturalized. 1—2 f. F. B. N. T. Mch.

arvensis, (field-mint. W. p. Ju.) hairy, branching: leaves ovate: flowers whorled: calyx bell-form. Naturalized. 1 f.

11—1. MENTZE'LIA. 88. Onog. ton.

Southern.

aurea, N. (W. y.) stem dichotomous: leaves lance-ovate, deeply angular-crenate: flowers sessile; petals oval, acuminate, entire: capsule about 3-seeded. Very rough and tenaceous. 12 i.

oligosperma, N. (W.) decumbent: flowers large.

5—1. MENYAN'THES. 46. Gent. bit+. ton+. dia. ast. *rhe. dro.*

trifoliata, (buck-bean. O. w. M. ♃.) leaves ternate: corols densely bearded above. In stagnant waters and sphagnus swamps. 6—12. i. *S.* Mch.

Menyanthes, VILLARSIA.

8—1. MENZIE'SIA. 50. Eric. diu. ast.

cærulea, W. (2) (mountain heath. A. r. Ju. ♄.) leaves scattered, crowded, linear, obtuse, cartilaginous toothed: peduncles terminal, aggregate 1-flowered; flowers bell-form: calyx acute. Decandrous. Very small. White hills.

globularis, Sy. (A. J. ♄.) leaves lanceolate, glaucous beneath except the nerves, pubescent: calyx 4-cleft: flowers globose, octandrous. 2—4 f. *S.*

empetriformis, S. (W. r. Ju. ♄.) leaves linear, serrulate, concave beneath: peduncles terminal, aggregate: flowers bell-form: calyx obtuse. Decandrous,

Southern.

ferruginea, W. (W. J. ♄.) leaves lance-obovate, glabrous beneath except the nerves: calyx somewhat 4-cleft: flowers urceolate, octandrous.

5—3. MERK'IA. 82. Cary. dem. cat.

physodes, Fisch. ( ) leaves ovate, a little ciliate: peduncles solitary, 1-flowered: capsule about half an inch in diameter. Bay of Eschscholtzia.

Mentha. From Menthe, daughter of Cocytus, fabled to have been changed into this herb.

Mentzelia. In honor of Dr. Christian Mentzel, physician to the Elector of Brandenburg.

Menyanthes. Gr. *men* or *mēne*, a month, and *anthos*, flower; because the plant continues in flower about that time.

Menziesia. In honor of Archibald Menzies, a distinguished botanist.

Merkia.

(1) viridis, Wr. (2) Andromeda taxifolia, Pallas. Erica, W. Phyllodoce taxifolia, Sy.

11—5. Mesembryan'themum. 87. Ficoi. cata. dem.

Exotic.

crystallinum, (ice plant. w. Au. ☼.) branching: leaves alternate, ovate, papillose: flowers sessile: calyx broad-ovate, acute, retuse.

11—5. Mes'pilus. 92. Poma. b. feb. f. ref.

Exotic.

germanica, (medlar. ♄.) leaves lance-ovate, downy beneath: flowers sessile, solitary.

2—1. Micran'themum. 35. Prim. sop. ast—.

Southern.

orbiculatum, Mx. (w. Au. ♃.) stem prostrate, terete: leaves orbicular, abruptly narrowed at the base: flowers peduncled. Wet ditches. S—C.

emarginatum, E. (w. Au. ♃.) leaves oval and obovate, emarginate: flowers sessile. Wet.

10—4. Micrope'talon. 82. Cary. dem. cata.

lanceolatum, Mx. (1) (blind starwort. A. Ju. ♃.) glabrous: leaves lanceolate, narrow at both ends: flowers panicled; petals ovate, very short or wanting. Damp. 6—8 i. H. P.

longifolia, M. (2) (long-leaf starwort. W. w. J. ♃.) stem decumbent or sub-decumbent: leaves lance-linear, opposite, entire, smooth: panicle terminal: calyx 3-nerved, about equalling the petals. 12—18 i. S. P. D. F. Mch.

Southern.

lanuginosum, Mx. (A. Ju. ♃.) dense-pubescent: leaves lanceolate, tapering into the petiole: peduncles sub-solitary, elongated, at last reflected: flowers without petals.

18—1. Micros'tylis. 21. Orch. nut. emo.

ophioglossoides, W. (3) (adder mouth. g-w. J. ♃.) leaf solitary, ovate, clasping: scape 5-angled: lip cleft at the tip. 6—9 i. S. T. D. Y. C. V. B. P. N. Rocky Mts. Mch.

brachypoda, Gray. (Ju.) stem 1-leaved: racemes sub-spiked, with the flowers shorter than the pedicels: lateral petals refracted; lip triangular-hastate, cucullate, acuminate. New-York.

3—1. Mie'gia. (4) 10. Gram. far. ton.

Southern.

macrosperma, Mx. (cane. W. Ap. ♃.) stem terete, glabrous, hollow, rigid: leaves distichous, lanceolate, flat, sub-acuminate, pubescent beneath. 3—15 f. Var. *gigantea*, much taller. 30—40 f.

Mesembrianthemum. Gr. *mesēmbria*, mid-day, and *anthos*, flower; on account of the flowers usually expanding at that time.

Mespilus. Gr. *mespilē*, from *mesos pilos*, half-bullet, to which the fruit bears resemblance.

Micranthemum. Gr. *mikros*, small, and *anthos*, flower, from the diminutive size of the blossom.

Micropetalon. Gr. *mikros*, small, and *petalon*, petal, from their diminutive size.

Microstylis. Gr. *mikros*, small, and *stulos*, style; in reference to the minute column or style.

Miegia. In honor of two Swiss botanists, father and son, Jno. Rodolph and Achilles Meig.

(1) Stellaria, T. Spergulastrum, Mx. (2) gramineum, Ph. Stellaria, M. (3) Malaxis, W. unifolia, Mx. (4) Arundinaria, Mx. (5) Eupatorium, L.

17—1. Mika′nia. 55. Cory. r. exp. ton. sec-stim.

scandens, (5) (climbing thorough-wort. w. Au. ♃.) stem smooth, climbing: leaves cordate, repand-toothed, acuminate; lobes divaricate, unequal: flowers corymbed. Damp or wet. *S.* P. Y C. B. F. S—C. M.

pubescens, M. (w-p. Au. ♃.) pubescent: stem climbing: leaves cordate, repand-toothed, angled at the base; acuminate: involucre 4-flowered. *S.*

3—2. Mil′ium. 10. Gram. far. ton.

effusum, (millet. ♃.) panicle diffuse, compound: branches horizontal: glumes ovate, very obtuse: paleas awnless, smooth and shining: leaves broad-linear. 5—8 f.

amphicarpon, Ph. (1) (millet grass. Au. ♃.) leaves lance-linear, hairy, ciliate: panicle simple, contracted, bearing perfect flowers: fertile flowers in solitary, elongated, radical scapes, at length subterraneous. 18—24 i. Y.

pungens, T. (2) (dwarf millet grass. M. ♃.) culm erect: leaves lanceolate, very short, pungent at length involute: panicle contracted: branches generally in pairs, 2-flowered: flowers awnless, ovate: paleas hairy. 12—18 i. B.

Exotic.

nigricans, (african millet.) flowers panicled, crowded: glumes shining, becoming black: leaves ensiform, very long.

Milium, Piptatherum.

Mimosa, Acacia, Schrankia.

13—2. Mim′ulus. 37. Scra. cat. eme.

ringens, (monkey-flower. O. b. Ju. ♃.) erect, glabrous: leaves sessile, lanceolate, acuminate, sub-serrate: peduncles axillary, opposite, longer than the flower: teeth of the calyx acuminate. 1—2 f. *S.* Mch.

alatus, (W. b. Ju. ♃.) erect, glabrous: leaves petioled, ovate, acuminate, serrate: peduncles axillary, opposite, shorter than the flower: stem winged at the 4-corners: teeth of the calyx round-mucronate. 1—3 f. *S.* T. Y. P. C. F. H. Mch.

luteus, W. (W. y. Ju. ♃.) erect glabrous, stoloniferous: leaves roundish-ovate, nerved, toothed; lower ones obtuse, petioled; upper ones acute, closely sessile: raceme terminal: peduncles axillary, opposite, elongated: calyx unequal: teeth acutish. 12—18 i. Cultivated. Mch.

rivularis, N. (y. ♃.) leaves oval, obtuse, crenate: cauline ones sessile: flowers axillary and terminal: teeth of the calyx very short. R.

Southern.

lewisii, Ph. (W. p. Au. ♃.) erect, small, pubescent: leaves sessile, lance-oblong, acute, nerved mucronate-denticulate: flowers few, terminal, very long peduncled: teeth of the calyx acuminate. 6—8 i.

5—1. Mirab′ilis. 32. Nyct. cat.

Exotic.

dichotoma, (mexican four o'clock. ♃.) flowers sessile, axillary, erect, solitary.

jalapa, (four o'clock. r. y. Ju. ♃.) flowers heaped, peduncled: leaves glabrous.

longiflora, (w. Au. ♃.) flowers crowded, very long, a little nodding: leaves sub-villlose.

Mikania. In honor of Prof. Jos. Mikan, of Prague.

Milium. Lat. *milium*, a sort of grass, so called from *mille*, a thousand, from the abundance of its seeds, or from Celtic *mil*, a pebble, alluding to the hard, shining grains.

Mimulus. Lat. *mimus*, a masked actor, from a supposed resemblance of its corol or seeds.

Mirabilis. Lat. *mirabilis*, wonderful, on account of the diversity of these most fragant flowers even on the same root.

(1) ciliatum, M. (2) Synonymous with Stipa canadensis, T.

4—1. Mitchel'la. 57. Cinc. f. amy.

repens, (partridge berry, checker berry. O. w. J. ♃.) stem creeping: leaves roundish, petioled, opposite. Woods. *S.* Mch.

10—2. Mitel'la. 84. Saxi. ton.

diphylla, W. (currant leaf. W. w. Ap. ♃.) leaves cordate, sub-lobate, dentate: scape 2-leaved: leaves opposite. Wood. 1—2 f. P. T. C. D. O. N. V. Mch.

cordifolia, Lk. (W. w. M. ♃.) leaves round-reniform, doubly-crenate, with scattered hairs above: scape erect or prostrate, naked or 1-leaved. Var. *reniformis*, (1) leaves reniform, scape naked. Var. *prostrata*, (2) stems prostrate, leafy. 6—8 i. *S.* P. C. D. N. Mch.

prostrata, (W. Ju. ♃.) root creeping: stem prostrate: leaves alternate, round-cordate, sub-acute, obtusely sub-lobed. Canada.

trifida, Graham. (♃.) pentandrous: leaves radical, cordate, obtusely lobed, crenate: scape leafless: calyx campanulate, limb spreading at the apex: petals trifid: ovarium seed-bearing. R. A.

Mitella, Tellima.

Mitreola, Ophiorhiza.

3—3. Mollu'go. 82. Cary. dem. cata.

verticillata, (carpet-weed. O. w. Ju. ☉.) stem sub-divided, prostrate: leaves in whorls, wedge-form, acute: peduncles 1-flowered. *S.* Mch.

13—1. Molucel'la. 42. Labi. fra. sto. car. ton.

Exotic.

lævis, (molucca balm, shell-flower. w. g. Ju. ☉.) calyx campanulate, 5-toothed, teeth equal, awnless: leaves petioled, round-ovate, toothed. Calyx much longer and larger than the corol.

19—15. Momor'dica. 97. Cucu. s. poi. lax.

echinata, (W. w. Au. ☉.) pomaceous: berry 4-seeded, roundish, setose-echinate: leaves cordate, 5-lobe-angled, acuminate, entire. Calyx 6-cleft: corol 6-parted. W. T. P. C. N. Mch.

Exotic.

balsamina, (balsam apple. S. ☉.) pomaceous: berry angled, tubercled: leaves glabrous, spreading, palmate.

2—1. Monar'da. 42. Labi. fra. sto. car. ton.

didyma, (3) (mountain mint. O. r. J. ♃.) leaves ovate, acuminate, sub-cordate, somewhat hairy: flowers in simple or proliferous heads: outer bracts large, colored, lanceolate. Var. *angustifolia*, (4) leaves lance-ovate, acuminate, pubescent: stem pubescent. 18—24 i. *S.*

Mitchella. In honor of Dr. John Mitchell, an English botanist who travelled in Virginia.

Mitella. Lat. diminutive of *mitra*, a cap, or mitre, the ripe seed vessels with the two little pointed lobes resembling a little mitre.

Mollugo. Lat. *mollugo*, a name supposed to be derived from *mollis*, soft, on account of its soft leaves.

Molucella. Latinised by Linneus, from Molucca, because it was first found in those islands.

Momordica. Lat. *mordeo*, *momordi*, to bite; the seeds appearing as if bitten off: but the word appears to be of Italian origin.

Monarda. In honor of Nicholas Monardes, a Spanish botanist of the 16th century.

(1) nuda, W. (2) prostrata, Mx. (3) purpurea, Lk. coccinea, Mx.

(4) kalmiana, Ph.

oblongata, A. (1) (wild burgamot. W. b. r. Ju. ♃.) pubescent: head simple: outer bracts ovate: calyx short, bearded in the throat; teeth spreading: stem obtuse-angled, pubescent above: leaves lance-oblong, rounded at the base. 2—3 f. *S.* P. B. Y. C. T. H. O. M. W. D. Mch.

clinopodia, (2) (W. y. p. Ju. ♃.) glabrous: heads small, simple, terminal: outer bracts broad-ovate, acute, entire, smoothish: calyx ciliate, short: corol pubescent, slender: leaves ovate-oblong, acuminate, serrate, a little hairy: stem obtuse-angled, glabrous. *S.* P. Canada. Salina.

fistulosa, (W. p. Ju. ♃.) hirsute, with scattered hairs: heads simple, proliferous, leafy: outer bracts oblong, acute, glabrous: calyx long, bearded: corol hirsute, of middling length: leaves ovate, acuminate, serrate; petioles long, ciliate: stem glabrous, obtuse-angled. 2 f. *S.* P. Y. Canada.

punctata, (3) (W. y. J. ♃.) smoothish: flowers middling size, whorled: bracts lanceolate, colored, longer than the whorls: leaves lance-oblong, remotely serrate: stem obtuse-angled, with whitish down. 2—3 f. *S.* P. Y. D. Mch.

hirsuta, Ph. (4) (W. b. p. Au. ♃.) very hairy: flowers small, whorled: bracts attenuated into awns: upper teeth of the calyx very short, the rest bristle-form: leaves ovate, acuminate, long petioled, serrate. 2—3 f. *S.* K. N. Mch.

beckii, Ea. (W. ♃.) stem rough, with stiff white hairs: leaves petioled, ovate-oblong and lanceolate, serrate, acutish, somewhat hairy: bracts ovate, glabrous, veiny, a little shorter than the 2-lipped calyx: upper teeth of the calyx subulate. Flowers small, in whorls. First discovered by Professor L. C. Beck near St. Louis. Described by Dr. Torrey in the Annals of the N. Y. Lyceum.

ciliata, (p. Au. ♃.) hirsute: flowers small, whorled: bracts ovate, glabrous, veiny, ciliate, equalling the calyx: leaves ovate-oblong, tapering, sub-sessile, serrate, pubescent: stem acute-angled, hirsute. *S.* P. Y. V. D. Mch.

rugosa, A. (W. A. w. Ju. ♃.) smoothish: heads simple, middling size: outer bracts ovate, undulate: calyx smoothish: leaves ovate, sub-cordate, acute, rugose; nerves beneath and petioles pilose: stem acute-angled, smoothish. 4 f. Canada.

Southern.

gracilis, Ph. (A. y-w.) very glabrous: heads lateral and terminal, small: outer bracts linear, ciliate: calyx pubescent ciliate: corol short: leaves lance-linear, acuminate, serrate: stem obtusely angled, glabrous.

purpurea, Ph. (A. r. Ju. ♃.) somewhat glabrous: heads large, leafy: outer bracts large, colored, broad-ovate, acuminate, serrate: calyx colored; throat bearded: corol long, nearly glabrous: leaves oblong-ovate, acute, coarsely serrate; nerves all over pilose: stem acutely angled, glabrous.

bradburiana, Bk. (W. p. Ju. ♃.) heads large, terminal: outer bracts broad-lanceolate, ciliate, colored: calyx pilose, densely bearded at the throat, with 5 subulate, very long, divaricate teeth: leaves opposite, sessile, or with very short ciliate petioles; hairy on both sides, lance-oblong, dentate, rounded at the base. Stem simple. 3 f.

scabra, Bk. (W. p. Au. ♃.) heads large, simple, terminal, somewhat in threes: bracts lance-ovate; teeth of the calyx short, acute, nearly straight: leaves lance-ovate, sub-cordate, serrate, opposite, scabrous, punctate, somewhat hairy; petioles short, hairy. Stem branching. 3 f.

3—2. Monoce'ra. 10. Gram. far. ton.

Southern.

aromatica, Wr. (5) (J. ♃.) spikes solitary; spikelets about 6-flowered: flowers awned, bearded at the margin; exterior paleas roughened by glands, awned on the back.

10—1. Monotro'pa. 51. Pyro. h. bit-ton. diu.

uniflora, (bird's nest, indian pipe. O. w. J. ♃.) stem 1-flowered: flower nodding at first, at length erect: scales of the stem approximate. Whole plant ivory-white at first. 4—8 i. *S.* Mch.

Monocera. Gr. *monos*, one, and *keras*, horn, there being but one spike.

Monotropa. Gr. *monos*, one, and *trepō*, to turn, the flowers all turning in one direction.

(1) longifolia, Lk. allophylla, Mx. mollis, W. (2) glabra, Lk. (3) lutea, Mx. (4) ciliata, Mx. not L. (5) Aegilops, Wr. Chloris monostachya, Mx.

morisoniana, Mx. (J. ♃.) scape elongated, straight, 1-flowered: scales distant: flowers erect: stamens 10 to 12. S—C.

lanuginosa, L. (false beech-drops. W. y-w. Ju. ♃.) scape spike-flowered: whole plant, including the flower, woolly, except the base of the stem. Grows on roots of trees, &c., whole plant yellowish white. 3—6 i. S. B. C. T. F. P. V. Niagara Falls. Hypopithys lanuginosa of 7th edition.

europea, (yellow beech-drops. y. J. ♃.) scape spike-flowered: flowers and scales on the stem glabrous outside: lateral flowers octandrous. P. Canada. Hypopithys europea of 7th edition.

10—1. Monotrop′sis. (1) 51. Pyro. h. aro. o. nar—. *ric.*

Southern.

odorata, Sz. (r-w. Mar.) flowers bell-form, in aggregate heads. 3—4 i.

3—3. Mon′tia. 86. Port. muc. lax.

fontana, (false spring beauty.) leaves opposite: flowers axillary, small. Wet.

19—4. Mo′rus. 98. Atro. b. ton. f. ton. lax.

rubra, W. (red mulberry. W. M. ♄.) leaves cordate, ovate, acuminated or 3-lobed, equally serrate, scabrous, soft hairs beneath: pistillate spikes cylindric. 15—30 f. S. T. Y. P. C. O. N. F.

Exotic.

alba, (white mulberry. M. ♄.) leaves heart-form, with oblique bases, ovate or lobed, unequally serrate, smoothish. From China and Persia. Naturalized. 15—20 f.

nigra, (black mulberry. Ju. ♄.) leaves cordate, ovate or sub-5-lobed, unequally toothed, scabrous. From Persia. 30—40 f.

multicaulis, (many-stemmed mulberry. ♄.) leaves cordate, ovate, acuminate, crenate-serrate, net-veined, bullate, with veins prominent: sub-scabrous and pimpled beneath, sub-glabrous above: sprouts proliferous 8—16 f. Leaves sometimes 12 to 14 inches long.

3—2. Muhlenberg′ia. 10. Gram. far. ton.

diffusa, Sr. (2) (drop-seed grass. O. J. ♃.) culm diffuse (decumbent:) leaves lance-linear: panicle branched, appressed: awns as long as the paleas. 18 i. S. Mch.

Muhlenbergia, Brachyelytrum.

Myagrum, Alyssum, Camelina.

4—4. Mygin′da. 95. Ilic. ton.

myrtifolia, Jn. (3) (W. w. Au. ♄.) leaves opposite, oblong, obtuse, serrate, reflexed at the margin, glabrous, perennial: peduncles axillary, very short, sub-solitary, 1-flowered, 2-bracted at the base. S. R.

10—1. Myloca′ryum. 51. Eric. f. sed. nar. s. bit. ton.

Southern.

ligustrinum, W. (buckwheat tree. W. M. ♄.) leaves perennial, alternate, sessile,

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Monotropsis. Appearing like a Monotropa. Gr. *opsis*, appearance.

Montia. In honor of Joseph de Monti, Professor of Natural History at Bologna, in the beginning of the 18th century.

Morus. *Morea* was the Greek name of the mulberry, *amauros*, black: the Celtic *mor* denotes black.

Muhlenbergia. In honor of Rev. H. Muhlenberg, of Lancaster, Penn.

Myginda. In honor of Francis Von Mygind, a German patron of botany.

Mylocaryum. Gr. *mulē*, a mill, and *karua*, a kernel or stone, in form the nut resembles mill-stones.

(1) Elliott proposed Schweinitzia as a substitute for Monotropsis, and Nuttall has adopted it. (2) Dilepymum, Mx. (3) Ilexa myrsinita, Ph.

wedge-lanceolate, very entire, glabrous, sub-glaucous beneath: racemes simple, terminal. 6—15 f. Florida.

5—1. Myoso'tis. 43. Bora. ton. honey-pti.

palustris, Roth. (1) (scorpion weed. W. b. M. ♃.) nut smooth: calyx leaves sub-oval, about as long as the tube of the corol: stem sub ramose: leaves lance-oval: racemes bractless. 12—18 i. P. Y. H. B. N. C. Hudson.

arvensis, (2) (forget-me-not. W. w. b. J. ☉) nut smooth: calyx leaves oval, acuminate, very hirsute, longer than the tube of the corol: stem very branching: racemes conjugate: leaves lance-oblong, hirsute. 4—8 i. S. T. Y. P. N. F. M. D.

suffruticosa, T. & J. (W. b?) stem suffruticose, very branching, hirsute: leaves lance-linear, hispid pilose: spikes terminal, many: flowers pedicelled: calyx closed: nut smooth, depressed, ovate. 8 i.

Southern.

nana, W. (W. b. & y. ♃.) leaves oblong, villose: racemes few-flowered: nut smoothish; margin serrulate.

Myosotis, Rochelia.

5—12. Myosu'rus. 61. Ranu. g-r. acr-poi. h. epis.

Southern.

minimus, (Ap. ☉.) leaves linear, entire: scape 1-flowered: stamens 5 to 8. Petals anther-form. 2—4 i.

20—4. Myri'ca. 99. Myri. r. ast, f, aro-wax.

gale, W. (sweet gale, bog myrtle. W. M. ♄.) leaves wedge-lanceolate, obtuse, serrate at the apex: staminate aments imbricate: scales acuminate, ciliate: fruit in a scaly head. 3—4 f. C. H. B. D.

cerif'era, (bayberry. W. g-p. M. ♄.) leaves wedge lanceolate, acute, with distant serratures at the apex: staminate aments lax: scales acute: fruit small, globose, covered with a whitish wax, in a mealy state. Var. *pumila*, Mx. leaves lance-linear. 2—18 f. S. C. Y. P. B. F. O. N.

caroliniensis, W. (Ap. ♄.) leaves wedge-oblong, coarsely toothed: staminate aments lax: scales acute: berry globose, large. 3—4 f. S. C. New England.

pennsylvanica, Lk. (M. ♄.) leaves oblong, acutish at each end, very entire or sparingly sub-serrate at the apex, revolute at the margin: staminate aments lax: scales acute; berry globose, large. 3 f.

19—12. My'riophyl'lum. 88. Halo. emo.

verticillatum, (water milfoil. W. Ju. ♃.) leaves pinnate, capillary; upper ones pectinate-pinnatifid: flowers in axillary whorls: lower ones pistillate: upper ones staminate or perfect, octandrous. In stagnant waters. S. B. P. Y. C. N. Canada. Mch.

spicatum, (Ju. ♃.) leaves all pinnate, capillaceous: spikes interrupted, naked, whorled: flowers staminate, polyandrous. D. Y. Canada.

heterophyllum, Mx. (Ju. ♃.) lower leaves capillary, pinnate; upper ones oval, acutely serrate: flowers hexandrous.

capillaceum, (Ju. ♃.) leaves all capillary, pinnate: flowers axillary, opposite and alternate, tetrandrous, mostly perfect: fruit 4-angled, formed of four cylindrical carpels.

Myosotis. Gr. *mus*, *(muos)* mouse, and *ous*, *(ōtos)* ear, alluding to the shape and hairiness of the leaves.

Myosurus. Gr. *mus*, *(muos)* mouse, and *oura*, tail, referring to the long, slender receptacle.

Myrica. Gr. *murikē*, a name applied to this genus, from a supposed resemblance to the tamarisk; perhaps from Gr. *muro*, to flow, because wax flows from its fruit, on warm days.

Myriophyllum. Gr. *murios*, innumerable, and *phūllon*, leaf; from their great number,

(1) scorpioides, W. laxa, Lk. (2) verna, N.

ambiguum. N. (1) ( ) stem floating, dichotomous: leaves petioled, obsoletely pinnate; lowest ones capillary; middle ones pectinate; upper ones nearly entire. Var. *limosum*, stem rooting, erect: leaves rigid, mostly 3-cleft: segments setaceous, acute. Y. B.

tenellum, Bw. (Ju. ♃.) erect, nearly leafless: bracts entire, obtuse: petals linear, conduplicate and revolute. 4—12 i. B. F. Plainfield, Porter.

Southern.

scabratum, Mx. (J. ♃.) leaves pinnatifid: flowers whorled, axillary; upper ones staminate, tetrandrous; lower ones pistillate: fruit 8-angled. 12 i. La. K.

Myrrhis, Uraspermum.

11—1. Myr'tus. 89. Myrt. aro. ton.

Exotic.

communis, (myrtle. w. Ju. ♄.) flowers solitary: involucre 2-leaved: leaves ovate.

N.

Nabalis, Prenanthes.

19—1. Na'jas. 7. Fluv. ton.

canadensis, Mx. (water nymph.) small, filiform: leaves narrow-linear. W. N. Canada.

Napaea, Sida.

6—1. Narcis'sus. 17. Narc. r. ton. eme—.

Exotic.

pseudo-narcissus, (daffodil. M. ♃.) spathe 1-flowered: nectary bell-form, erect, crisped, equalling the ovate petals.

tazetta, (polyanthus. M. ♃.) spathe many-flowered: nectary bell-form, plicate, truncate, thrice as short as the petals; petals alternately broader: leaves flat.

jonquilla, (jonquil. M. ♃.) spathe many-flowered: nectary bell-form, short: leaves subulate.

poeticus, (poet's narcissus. ♃.) spathe 1-flowered: nectary wheel-form, very short, scarious, (red) crenulate: leaves inflexed at the margin.

17—2. Nardos'mia. 55. Eupa. dem—. bit-car. r. ton. sec-sti.

A sub-genus of Tussilago, which see.

3—1. Nar'dus. 10. Cype. ton—. fod—.

Southern.

stricta, (mat grass. W. ♃.) spike setaceous, straight: flowers 1-sided.

6—1. Narthe'cium. 13. Junct. fod—.

americanum, Ker. (2) (false asphodel. E. y. Ju. ♃.) racemes sometimes interruptedly spiked, lax: one cauline bract clasping the pedicel, another chaff-bristle-form below: filaments with short wool. Y.

Myrtus. Gr. *murtos*, the myrtle, said to be from *myrrha*, a nymph, changed into this tree; or from Gr. *muron*, perfume.

Najas. Gr. *nais*, a water nymph, because it is found floating on clear water.

Narcissus. Gr. *narkissos*, a youth, who was, according to Mythology, changed into this flower.

Nardosmia. Gr. *nardos*, spikenard, *osme*, odor; it smells like spikenard.

Nardus. Gr. *nardos*, spikenard; a term applied to aromatic grasses, though the present species have no such virtues.

Narthecium. Gr. *narthex*, fennel; from the appearance of the stalk. See Ferula.

(1) procumbens, Bw. (2) Phalangium ossifragum, M.

14—2. Nastur′tium. 63. Cruc. stim. dia.

natans, Dc. (♃.) leaves above water, lanceolate, entire, serrate; immersed leaves bi-tri pinnatifid; segments capillary: silicles obovate-globose: style long. Canada.

officinale, R. Br. (w.) leaves pinnately divided; segments ovate. sub-cordate, repand: petals white, longer than the calyx. S. Oregon, N. W. Coast, New England. Erysimum Nasturtium, 7th edition.

lyratum, N. (y.) leaves pinnatifid or lyrate; segments oblong-lanceolate, incisely serrate or angularly toothed: silique linear, compressed, more than twice the length of the pedicel, somewhat spreading, abrupt at the apex: style very short: common peduncle flexuous. Banks of the Oregon.

sinuatum, N. (y) decumbent: leaves pinnatifid; segments lanceolate, sub-serrate or toothed on the lower margin: pedicels spreading or recurved, longer than the oblong, acute silique: style nearly one-third the length of the silique. S. Oregon.

curvisiliqua, N. (☉. y.) erect, branching: leaves lanceolate, pinnatifid, acute, somewhat clasping at the base; lobes linear-lanceolate and spreading, the uppermost nearly entire: raceme in fruit elongated: siliques linear, acute, falcate, twice as long as the pedicels. N. W. Coast, Oregon.

palustre, D. C. (J. Au. ♃. y.) leaves pinnately lobed, clasping and ciliate at the base; lobes confluent, toothed, glabrous: root fusiform: petals as long as the sepals: silique spreading, obtuse at each end, somewhat turgid. 1—2 f. S. Arctic America, Oregon. *Erysimum* palustre of 7th edition.

amphibium, R. Br. (y.) leaves oblong-lanceolate, pinnatifid or serrate: root fibrous: petals longer than the calyx: silique ellipsoid, spreading, mucronate with the style. S. Canada. *Erysimum* amphibium of 7th edition.

polymorphum, N. (☉. or ♂. y.) leaves deeply pinnatifid or almost entire: segments entire: petals scarcely longer than the calyx: silique oblong-linear, compressed: stigma minute, nearly sessile. Oregon.

hispidum, D. C. (♃?) stem tomentose-villose: leaves somewhat villose, runcinate-pinnatifid; lobes rather obtusely toothed: siliques ovate, tumid, pointed with the distinct style, scarcely more than half as long as the somewhat spreading pedicels: petals scarcely as long as the calyx. Middle and Northern States.

sylvestre, R. Br. (y.) leaves pinnately divided; segments lanceolate, serrate, or incised: petals longer than the calyx: siliques oblong, somewhat torulose: style very short. Philadelphia. Introduced.

cernuum, N. (w.) racemes panicled: leaves pinnatifid or laciniate; the segments irregularly and distantly toothed: silique short, obovate, nodding: stigma sessile. Oregon.

Southern.

tanacetifolium, H. & Arn. (March. M. ♂. y.) leaves pinnately divided: segments sinuate-pinnatifid or toothed: siliques oblong-linear, nearly erect, acute: style short. S—C. to Arkansas. *Erysimum* Walteri of 7th edition.

sessiliflorum, N. (y.) leaves cuneate-obovate, obtuse, repandly toothed or nearly entire: siliques sub-sessile, linear-oblong, obtuse, tipped with the nearly sessile stigma. Banks of the Mississippi.

obtusum, N. (☉. y.) leaves pinnately divided, decurrent; segments irregularly oval, angularly toothed, obtuse: siliques linear, sub-terete, twice the length of the pedicels: style short. Banks of the Mississippi.

limosum, N. (♂. y.) leaves lanceolate, laciniately-pinnatifid toward the base, nearly entire above or merely angularly toothed; laciniæ decurrent, sub-serrate or entire: pedicels much shorter than the abbreviated siliques: stigma nearly sessile. New Orleans.

Nasturtium, Erysimum.

6—2. Nec′tris. 61. Ranu. f. poi. r. exp. asp. ast. cat. *asm. rhe.*

Southern.

aquatica, (g-y. M. ♃.) submersed leaves opposite, many-parted, capillary; floating ones alternate, elliptic, peltate, entire: raceme terminal.

Nasturtium. Lat. *nasus*, nose, *tortus*, twisting; from its convulsing the nose on being snuffed.

Nectris. From Gr. *nekton*, swimming or floating.

Nectris, Floerkea.

Negundium, Acer.

20—5.* Negundo. 66. Aceri. sug. ton.

[See note at the bottom of p. 112, on this as an old species of Acer.]

Calyx minute, unequally 4 to 5-toothed: petals 0: anthers 4 to 5, linear, sessile: pedicels of the stamminate flowers capillary, fascicled, from lateral aggregated buds; fertile flowers in racemes: samaras in pairs, winged, diverging, 1-seeded: leaves compound, pinnately 3 to 5 foliolate.

aceroides, Moench. (ash-maple, box-elder. M. ♄.) leaves pinnate or ternate, unequally serrate. Flowers dioecious. Large tree. 40 f. S. P. K. Acer negundo of 7th edition. Mch.

Southern.

californicum, (   ) young leaves villose, 3-foliolate; leafets 3-lobed; lobes incised or toothed. California.

12—12. Nelum'bium. 61. Nelu. r. amy-sug.

luteum, W. (1) (sacred bean. W. y. Ju. ♃.) leaves peltate, orbicular, entire: corol polypetalous: anthers linear above. The largest native flower in the Northern States. S. D. P. C. Lake Ontario, Sodus Bay.

Southern.

pentapetalum, W. (w. Ju. ♃.) leaves peltate, orbicular, entire: calyx 5-sepalled: petals 5.

reniforme, W. (♃.) leaves reniform: corol polypetalous. These two southern species rest on the authority of Walter and Dc.

codophyllum. (y. ♃.) leaves downy beneath. Lakes of Louisiana. Leaves two feet wide?

4—4. Nemopan'thes. (3) 95. Ilici. b. ton. f. ton—. eme.

canadensis, (wild holly, mountain holly. A. g-y. M. ♄.) leaves deciduous, ovate, entire, (or a little serrate at the apex.) glabrous: peduncles sub-solitary, long, 1-flowered: fruit somewhat 4-sided. 3—5 f. S. Common in high dry woods in New England. B. C. N. F. D. T. Mch.

5—1. Nemoph'ila. 43. Hydr. ton. honey-pti.

paniculata. Spreng. (water-leaf. b. M. ♃.) very hirsute: radical leaves sub-pinnatifid; cauline ones lobe-angled: sinuses of the calyx appendaged: the fascicles of flowers sub-panicled: calyx very hispid. S. P. C. Hydrophyllum appendiculatum of 7th edition.

Southern.

phacelioides, N. (W. M. b. ♂.) succulent: stem 3-sided: leaves alternate, pinnatifid: peduncles very long, 1-flowered, opposite the leaves and terminal, somewhat dacemed; racemes incurved: fruit deflexed. Resembles Hydrophyllum.

Nelumbium. In Ceylon called Nelumbo, meaning sacred bean. See Rees. art. Cyamus.

Nemopanthes. Gr. *nemos*, grove, and *pantos*, (of *pas*) all, in all groves common.

Nemophila. Gr. *nemos*, a grove, and *phileō*, to love, from its habitation.

(1) Nymphea nelumbo, L. Cyamus flavicomus, Sy. luteus, E. (2) Acer.

(3) Ilex. The separation of this species from the genus Ilex was suggested by Professor Dewey, of Williams College, in 1818; and he wrote a generic description. I proposed publishing it in my 3d edition, under the name *Deweya canadensis;* but M. Rafinesque was before me.

*The genus Acer, from which Negundo was taken by Moench, was placed among the diclinous plants by Linneus. But it was removed on account of many species varying from the character of the class. As the Negundo is constantly dioecious, it may be returned.

18—1. NEOT'TIA. (1) 21. Orch. r. amy. vis. aro—. salep.

tortilis, W. (2) (summer ladies' tresses. O. w. J. ♃.) radical leaves linear: scape sheathed: flowers spirally secund; lip somewhat 3-lobed; middle lobe larger, crenulate. 12 i. *S.*

gracilis, Bw. (O. w. Ju.) leaves radical, ovate: scape sheathed: flowers in a spiral row; lip obovate, curled. Var. *secunda*, spike unilateral, hardly spiral: flowers more slender. 8—12 i. Mch.

cernua, (3) (nodding ladies' tresses. O. w. Au. ♃.) leaves lanceolate, 3-nerved :stem sheathed: spike oblong, dense-flowered; flowers recurve-nodding; lip oblong, entire, acute. Var. *major*, stem tall, somewhat leafy: flowers very large. Var. *latifolia*, stem short: leaves lance-oblong, sub-radical, flat. 8—18 i. *S.* Mch.

Southern.

odorata, W. (w.) stem leafy, glabrous: leaves lanceolate, acuminate; radical ones very long: spike somewhat lax: flowers recurved; lip ovate, entire; margin undulate, sub-fimbriate. Newbern, N—C.

Neottia, GOODYERA.

13—1. NEP'ETA. 42. Labi. bev. sud. *cold.*

cataria, (catmint, catnip. O. b-w. ♃.) hoary-pubescent: flowers in whorled spikes: leaves petioled, cordate, tooth-serrate. Introduced?

Neurosperma, MOMORDICA.

Nicandria, ATROPA.

5—1. NICOTIA'NA. 38. Sola s. poi+. nar+. h. poi. nau.*

Exotic.

tabacum, (virginian tobacco. W. w-r. Ju. ☉.) leaves lance-ovate, sessile, decurrent: flowers acute. Naturalized.

rustica, (common tobacco. W. Au. ☉.) leaves petioled, ovate, entire: flowers obtuse. Naturalized.

paniculata, (small-flowered tobacco. Au. ☉.) leaves petioled, cordate, entire: flowers panicled, obtuse, clavate.

Southern.

quadrivalvis, Ph. (W. b-w. Ju. ☉.) leaves oblong-ovate, petioled: flowers scattered, solitary, near the summit of the branches: corol funnel-form; divisions oblong, acutish: capsule sub-globose, 4-valved.

12—4. NIGEL'LA. 61. Ranu. s. nau. poi. dra-eme.

Exotic.

damascena, (fennel-flower. M. ☉.) flower surrounded with a leafy involucre.

sativa, (nutmeg flower.) pistils 5: capsules muricate, roundish: leaves sub-pilose, pinnatifid. 9—15 i.

Neottia. Gr. *neottios*, a bird's nest, from a fancied resemblance in its fibrous roots.

Nepeta. Lat. *nepeta*, supposed to be from *nepa*, a scorpion, it being used to cure their bites: or from Nepete, a town in Italy.

Nicotiana. In honor of John Nicot, of Nismes, who introduced it into Europe.

Nigella. Lat. *niger*, black, in allusion to the color of the seeds.

(1) Spiranthes. (2) Ophrys aestivalis, Mx. Satyrium spirale, Sw. Limodorum præcox, Wr. (3) Ophrys, L. Limodorum autumnale, Wr.

*A deadly poison, sent upon man with other curses. It is also death to the creeping tempter of Eve. Lindley says (p. 513), one drop of the oil, exhaled from the mouth in smoking, if put on a snake's tongue, produces instant death.

6—3. NOLI'NA. 13. Melan. poi. if nau. asc.

Southern.

georgiana, Mx. (w. M. ♃.) leaves long linear, coriaceous, dry: scape with small subulate scales near the base: panicle spreading, racemose. 2—3 f.

12—1. NU'PHAR. (1) 62. Nymp. r. nar. sed. ast—. stip.

advena, (2) (yellow water lily. O. y. Ju. ♃.) leaves cordate; lobes divaricate: calyx 5—6 sepalled, stigma crenate: capsule furrowed. Leaves always floating in deep water and erect in shallow. Petioles semi-cylindrical. Bw. S. Mch.

kalmiana, A. (3) (Ju. ♃.) leaves cordate, lobes near each other: calyx 5-sepalled: stigma gashed, with 8 to 12 radiated lines. Flowers small. Water. O. F. C. T. Y. B. N. Canada. Mch.

Southern.

sagittaefolia, Wr. (4.) (y. Ju. ♃.) leaves long cordate-sagittate, obtuse: calyx 6-sepalled: petals 0: anthers sub-sessile: stigma entire. Water.

Nuttallia, MALVA.

12—1. NYMPHAE'A. 62. Nymp. r. nar. sed. ast—. stip.

odorata, A. (white pond-lily. O. w. Ju. ♃.) leaves round-cordate, entire, sub-emarginate: lobes spreading asunder, acuminate, obtuse: petals equalling the 4-sepalled calyx. Var. *rosea*, petioles, peduncles and leaves purplish beneath; lobes divaricate, acute. S. Mch.

minor, Dc. (w. ♃.) leaves cordate, entire; nerves and veins prominent beneath; peduncles and petioles somewhat hairy: stigma 16 to 20-rayed. Var. of *odorata?* S.

Neuroloma, *Parrya*, HESPERIS.

20—5. NYS'SA. 24. Elae. sed. ton.

multiflora, Wr. (5) (pepperidge tupelo, swamp hornbeam. O. y-g. M. ♄.) leaves obovate, oblong, entire, acute at both ends: the petioles, midribs and margins villose: pistillate peduncles sub-3-flowered: nut short-obovate, obtuse, striate. S. Mch

aquatica, (6) (sour gum. W. M. ♄.) leaves ovate-oblong, entire, acute at both ends, glabrous: pistillate peduncles 2-flowered: drupe short, obovate: nut obtusely striate. S. Y. C. S—C. M.

Southern.

capitata, Wr. (7) (M. ♄.) leaves short petioled, lance-oblong and oval, nearly entire, pubescent and somewhat hoary beneath: staminate flowers capitate: pistillate ones solitary.

tomentosa, Mx. (W. M. ♄.) leaves long-petioled, oblong, acuminate, remotely serrate, tomentose beneath: pistillate flowers solitary: drupe oblong.

uniflora, Wr. (8) (Ap. ♃.) leaves long petioled, oblong, acuminate, remotely serrate, glabrous on both sides: pistillate peduncles one-flowered: drupe oblong. S—C. La.

Nolina. In honor of P. C. Nolin, a cultivator of American plants.

Nuphar. Gr. *nouphar*, the water lily; from the Arabic *noufar*.

Nymphaea. Gr. *numphaia*, belonging to nymphs, who were supposed to inhabit pure and running water.

Nyssa. A name of a nymph. Linneus says that he so named it because it grows in the water.

(1) Nymphea, L. (2) lutea, W. (3) minima, M. (4) Nymphaea, Wr. longifolia, Mx. (5) villosa, and sylvatica, Mx. (6) biflora, Wr. integrifolia, A. (7) candicans, Mx. (8) denticulata, A. angulisans, Mx.

O.

13—2. OBOLA'RIA. 46. Gent. r. bit. ton. ath.

virginica, (penny-wort. r. Ap. ♃.) stem simple: leaves oblong, truncate, fleshy, purple beneath: flowers axillary, solitary, sessile. 3—4 i. *S.* P. M. S—C.

13—1. O'CYMUM. 42. Labi. fra. sto. car. ton.

Exotic.

basil'icum, (basil. ☉.) leaves ovate, glabrous: calyx ciliate. 6—12 i.

5—2. ŒNAN'THE. 60. Umbe. if oolo. sto. if nau. poi.

sarmentosa, Dc. ( ) stem branching, weak, somewhat climbing: leaves gash-bipinnate; segments ovate, dentate, terminal one somewhat 3-lobed: umbels opposite the leaves, many-rayed: involucre 0: fruit oblong: style very long. A.

filiformis, Wr. (1) (w. Au. ☉?) leaves simple, terete, jointed, acute: nut winged. Harper's Ferry.

phellandrium, Lk. (2) (W. Ju. .) ramifications of the leaves divaricate. In water.

Œnoplia, RHAMNUS.

8—1. ŒNOTHE'RA. 88. Onag. emo.

1. *Capsules elongated, sessile.*

biennis, (scabish, tree-primrose. O. y. J. ♂.) stem villose, scabrous: leaves lance-ovate, flat, toothed: flowers sub-spiked, sessile: stamens shorter than the corol. 3—5 f. *S.* Mch.

muricata, (W. y. Ju. ♂.) stem purple, muricate: leaves lanceolate, flat: stamens of the length of the corol. 1—2 f. *S.* T. P. O. Mch.

parviflora, (y. Ju. ♂.) stem smooth, sub-villose: leaves lance-ovate, flat: stamens longer than the corol. *S.* Y. T. H.

grandiflora, A. (W. y. Ju. ♂.) stem glabrous, branching: leaves lance-ovate, glabrous: stamens declined. Flowers very large. A variety of Œ. biennis? T. 2—3 f. *S.* P. F.

albicaulis, N. (W. w. Ju. .) stem simple, erect, white, glabrous, branching above: leaves lance-linear, rarely sub-serrulate, sub-villose beneath: flowers axillary; petals entire: capsules prismatic. 3 f.

pallida, Lind. (y.) root creeping: stem ascending, branching: leaves lance-linear, acuminate, very entire, or toothed, glabrous: petals retuse, crenulate, exceeding the stamens: capsule cylindric, contorted. R.

leucocarpa, Comein. (y.) stem branching: leaves rigid, serrulate; lower ones lance-spatulate; upper ones lanceolate; younger ones somewhat silky: petals slightly emarginate, apex crenulate, exceeding the tube of the calyx by one half; almost twice as long as the stamens and pistils: capsules cylindric, becoming hoary-silky. R.

viminea, Doug. ( ) stem erect, branching: leaves lanceolate, sub-entire, glaucous, glabrous: tube of the calyx equalling the divisions: petals entire, denticulate, twice as long as the stamens and pistils: stigma purple: capsules cylindric, apex attenuated, sulcate, pubescent. 2—3 f. North Carolina. R.

lindleyi, Doug. ( ) stem ascending diffusely branched: leaves lance-linear, very entire, glabrous: tube of the calyx one third as long as the divisions: petals entire,

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Obolaria. Gr. *obolos*, a small ancient Athenian coin, that bears a considerable resemblance to the rounded leaves of this plant.

Ocymum. Gr. *okus*, quick, in allusion to its rapid growth: or from Gr. *ozo*, to smell, on account of its powerful scent.

Oenanthe. Gr. *oine*, the vine, and *anthos*, flower, because it smells like the vine, and flowers at the same time.

Oenothera. Gr. *oinos*, wine, and *thero*, to seek, because the roots are said to excite a desire for wine.

(1) carolinensis, Ph. teretifolium. M. (2) Phellandrium aquaticum, Ph.

denticulate, twice as long as the stamens and pistils: stigma yellow: capsules cylindric, elongated and attenuated, finely pubescent. 1—2 f. North California. R.

decumbens, Doug. (p.) stem ascending: leaves glaucous, very entire, pubescent; lower ones broad-ovate; upper ones lance-ovate: petals emarginate, crenulate: stigma purple, divisions reflexed: capsules obtuse, 4-angled, tapering from a thick base to the apex, villose. North California. R.

purpurea, (p.) becoming glaucous: leaves lanceolate, tapering to both ends, obtusish: tube of the calyx short: petals broad-ovate, crenulate: stamens and pistil exsert; stigmas thick, short, dark purple: anthers yellow: capsules ovate-3-sided; sessile, hairy.

romanzowii, (p.) somewhat silky-glaucous: stem decumbent below: leaves lance-oblong, slightly mucronate, tapering into the petiole: tube of the calyx very short; limb half as long as the corol; petals broad-obovate, crenulate, violet color: stamens much shorter than the corol: anthers green: stigmas almost sessile, inclosed, dark purple: capsule oblong, hairy, somewhat 4-sided.

heterantha, N. (y. J. ♃.) stemless: leaves lance-oblong, entire: petals obovate-sub-rotund, retuse: stamens 4 shorter than the other 4: capsules smooth. R.

sinuata, W. (W. y. J. ⊙.) stem diffused, soft-pubescent: leaves oval-oblong, tooth-sinuate: flowers axillary, villose: capsules prismatic. Var. *minima*, (1) stem low, simple, 1-flowered: leaves entire. *S.* P.

canadensis, Goldie. ( ) stem sub-glabrous: leaves narrow-lanceolate, sessile, spread-toothed, obscurely ciliate at the margin: capsules oblong-clavate, acute-angled, sessile. Canada.

2. *Capsules ventricose, angular; mostly pedicellate.*

fruticosa, W. (sundrops. W. y. Ju. ♃.) pubescent: stem branched from the base: leaves lanceolate, sub-dentate, acute: capsules pedicelled, oblong-clavate, angled: raceme naked below. Var. *ambigua*, is somewhat hairy: stem simple: leaves lance-olate or lance-ovate, acute, sub-denticulate: petals obcordate; width exceeding the length: capsule sub-sessile, smooth, oblong, 4-winged: raceme naked below. 12—18 i. *S.* P. Y. C. T. D. Mch.

incana, N. (y.) stem slender, erect: leaves flat, hoary and tomentose, very entire, oval-ovate, acute: raceme few-flowered, naked: capsules sub-sessile, oblong, 4-sided. Probably a variety of the last. 6—8 i.

hybrida, Mx. (y. Au.) stem erect, villous: leaves pubescent on both sides, lanceolate, remotely toothed, undulate: capsules somewhat spiked, short-pedicelled, ovate-4-angled. 1—3 f. *S.* P. M. Owego.

pumila, (y. Ju. ♃.) glabrous: stem ascending: leaves lanceolate, very entire, obtuse: capsules sub-sessile, elliptic-obovate, angular. 8—12 i. *S.* T. B. C. N. Mch.

chrysantha, Mx. (dwarf [illegible]. y. J. ♃.) stem slender, pubescent: leaves lanceolate, obtusish, flat, entire: tube of the calyx but half as long as the divisions: capsule clavate, acute-angled, mostly sessile. A variety of the last? 10 i. *S.* T. C. F. V.

pusilla, Mx. (A. y. Ju. ♃.) sub-pubescent: stem small, sub-simple: leaves lance-oblong, obtusish, entire: flowers axillary at the top: capsules clavate, turbinate, about equally 8-sided. 4—6 i. *S.* P. C. Canada.

riparia, N. (y. J. ♃.) smoothish: stem erect, virgate-branched: leaves lance-linear, acute, distinctly sub-denticulate, flat: capsules spiked, pedicelled, obovate, 8-grooved: valves with dorsal ridges. 2 f.

quadriculnera, Doug ( ) stem ascending, sub-ramose, weak: leaves lance-linear, sub-denticulate, finely pubescent: petals entire, margin crenulate: capsules 4-angled, apex attenuated, villose. 1—2 f. R.

boothii, Doug. (w.) stem ramose: leaves ovate, dentate, glabrous above, rough beneath; lower ones petioled; upper ones sessile: flowers secund, sub-spiked; petals small, obovate, entire, equalling the stamens: style long exsert: capsules cylindric, sulcate, twisted. R.

pygmaea, Doug. ( ) stem ascending, ramose: lower leaves petioled, rhomboid; upper ones sessile, lanceolate, all dentate, pubescent: capsules sub-secund, cylindric, tapering to the apex, torulose. R. A.

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(1) Œ. minima, Ph.

spiralis, H. (   ) stem sub-simple, decumbent, hoary: leaves lanceolate, obtuse, very entire, strigose-pilose, hoary, attenuate below: spikes leafy: petals twice as long as the stamens: capsules acutely 4-angled, acuminate, hoary, sub-spirally twisted. A.

viridescens, H. (   ) dense hoary-tomentose: stem erect, simple: leaves ovate, acute, sessile, coarsely toothed: spikes leafy: petals twice as long as the stamens: capsules acutely 4-angled, sub-hirsute, twisted. Petals, when dry, are dark green. A.

contorta, Doug. (   ) glabrous: stem weak, branching: leaves linear, very entire: flowers very small: capsules cylindric, contorted-curved, elongated, torulose. R.

tetragona, Roth. (W. ♃.) leaves oval, obtuse, entire: flowers somewhat level-topped: capsules pedicelled, truncate, 4-valved.

Exotic.

longifolia, (y. Au. ♂.) leaves toothletted, lance-ovate: stem simple, very hairy: petals not in contact at the base, and 2-lobed.

Southern.

glauca, Mx. (O. y. ♃.) very glabrous: leaves broad-oval, repand-denticulate, smooth glaucous: capsule ovate-4-angled, pedicelled.

linearis, Mx. (y. Ju. ♃.) wholly pubescent, slender: leaves linear, entire: capsules long-peduncled, roundish, 4-angled, villose.

caespitosa, Ph. (W. w. & r. Ja. ♃.) stemless: leaves lanceolate, gash-toothed: capsules oblong, sessile: tube of the calyx very long: petals 2-lobed, distant.

pinnatifida, N. (1) (W. w. J. ♂.) minutely pubescent: stem decumbent: radical leaves nearly entire; cauline ones pinnatifid; segments linear, acute: capsules prismatic, grooved. 6—24 i.

fraseri, Ph. Ju. ♃.) nearly glabrous: stem simple below, branching above: leaves ovate, petioled, glandular-denticulate: racemes leafy: capsules pedicelled, obovate, 4-angled. K. M.

macrocarpa, Ph. (2) (W. y. Au. ♂.) nearly glabrous: stem branching: leaves lanceolate, petioled, distantly glandular-denticulate, white-silky on the margin and nerves: petals obcordate, with a point: capsules elliptic, 4-winged, very short pedicelled.

triloba, N. (W. y. M. ☉. & ♃.) stemless: leaves interruptedly pinnatifid, toothed, glabrous: petals 3-lobed at the apex: capsules 4-winged, large.

speciosa, N. (W. w. J. ♃.) finely pubescent: leaves lance-oblong, toothed, sub-pinnatifid: raceme naked, at first nodding: capsules obovate, angled: stem suffruticose.

linifolia, N. (W. y. J. ♂.) leaves entire; radical ones lanceolate; cauline ones linear, crowded: raceme naked, terminal: capsule obovate, angled, pubescent: petals obcordate, longer than the stamens: stigma 4-lobed.

serrulata, N. (W. y. J.) leaves linear, somewhat spinose-serrate, acute: flowers axillary: sepals keeled: stigma 4-lobed: capsules cylindric, erect: stem suffruticose. D.

humifusa, N. (w.   ) stem prostrate, branching, villous: leaves lance-linear, subdentate or entire, silky-villose: flowers axillary: calyx villose; tube a little longer than the germ: capsule prismatic.

suaveolens, D. (y.   ) stem, calyx and capsule, sub-pilose: leaves lance-ovate, obsoletely toothed: petals large, emarginate: capsules elongated, furrowed, nearly uniform in thickness. Cultivated.

lamarckiana, (y.   ) stem ramose: leaves entire, lance-ovate: petals entire, large; capsules glabrous, short, somewhat 4-sided.

media, (y. ♃.) stem erect, hairy: leaves broad lance-linear, acute, toothed, soft pubescent: tube of the calyx long, hairy: petals margined, yellow.

viscosa, R. (   ) stem branching, decumbent, terete, viscous, downy: leaves sessile, lanceolate, nerved, tooth-sinuate: flowers axillary, sessile: petals obcordate: stigma 4-lobed: capsule cylindric, channelled. Louisiana.

Oldenlandia, Hedyotis.

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(1) albicaulis, Ph.   (2) alata, N.

2—1. O'LEA, 34. Olea. f. ole. b. bit. ast. emo. lax.

Southern.

americana, W. (american olive, devil's wood. L. w. M. ♄.) lanceolate, elliptic, entire: racemes compressed: bracts all persistent, connate, small. Florida, S—C.

17—2. OMALAN'THUS. 55. Anth. r. aro. f. res. sto.

camphoratus, Lep. (y.) leaves cut-bipinnate, alternate: heads solitary or in corymbs: involucre campanulate, with the leafets in few series: receptacle convex. Resembles Tanacetum vulgare, but is much more robust. R. A.

21—1. ONOCLE'A. 5. Fili. sec-stim.

sensibilis, (sensitive fern. W. J. ♃.) barren frond pinnate; fertile one doubly-pinnate: stem glabrous. The leafets slowly approach each other, on squeezing the stem in the hand. *S.* B. C. O. V. Y. Mch.
obtusiloba, Sh. barren frond pinnate; fertile one doubly-pinnate: stem scaly. P.

Onoclea, STRUTHIOPTERIS.

17—1. ONOPOR'DON. 54. Card. r. eme. l. ton.

Exotic.

acanthium, (cotton thistle. p. J. ♂.) scales of the involucre spreading every way, acuminate: leaves ovate-oblong, toothed-spinose, woolly. Naturalized. N. B.

5—1. ONOSMO'DIUM. 43. Bora. ton—.

hispidum, Mx. (1) (false gromwell. y-w. J. ♃.) very hispid: leaves lance-oval, acute, papillose-punctate: divisions of the corol subulate. 1—2 f. *S.* C. Y. T. D. O. N. M. S—C. Mch.
molle, Mx. (2) (w. Ju. ♃.) whitish-villose: leaves oblong-oval, somewhat 3-nerved: divisions of the corol sub-oval. *S.*

21—1. OPHIOGLOS'SUM. 5. Fili. sec-stim.

vulgatum, (adder-tongue fern. W. M. ♃.) frond ovate, simple, obtuse, closely reticulate: spikes about an inch long, cauline. [illegible] i. Y. P. C. F.
bulbosum, W. (3) (W. M. ♃.) root bulbous: frond heart-ovate, obtuse: spike cauline. 6 i. *S.* Y.

Southern.

pusillum, N. ( ) spike cauline: frond cordate, acute. 1 i.

5—1. OPHIORHI'ZA. 46. Gent. bit+. ton+.

Southern.

mitreola, W. (4) (w. Ju. ☉.) leaves ovate, sessile, with the margin scarious. 12—18 i. Charleston, S—C. La.
lanceolata, E. (5) (w. & p. Au. ☉.) leaves long-lanceolate, finely serrulate, tapering at the base. 18 i. Charleston, S—C.

Ophrys, EPIPACTIS.

Olea. Gr. *elaia*, the olive, (from *leios*, smooth;) on account of the qualities of the oil.
Omalanthus. Gr. *omalos*, equal, *anthos*, flower; as the flowers prove.
Onoclea. Gr. *onos*, a kind of vessel, and *kleiō*, to shut up; alluding to the capsule.
Onopordon. Gr. *onos*, an ass, and *perdo*, same origin as the last syllable of puff-ball, (Lycoperdon.)
Onosmodium. So named by Michaux, because it had some resemblance to Onosma, (a kind of borage.)
Ophioglossum. Gr. *ophis*, serpent. and *glossa*, tongue, from the shape of the spike.
Ophiorhiza Gr. *ophis*, serpent, and *riza*, root, because the root is used as a specific against the bite of the viper in India.

(1) Lithospermum virginianum, L. Purshia hispida, Sl. (2) Lithospermum carolinianum, Lk. (3) crotalopharoides, Wr. (4) ovalifolia, M. (5) mitreola, M.

15—5. OPLOTHE'CA. 30. Amar. cata. r. ton.

Southern.

floridana, N. (O. w. Ju. ♃?) stem erect, sparingly branched above, pubescent, with tumid joints: leaves sessile, lance-linear, scabrous above, lanuginous beneath. 3—4 f.

18—1. OR'CHIS.* (1) 21. Orch. r. amy-bit.

1. *Roots oval or palmate.*

spectabilis, W. (2) (gay orchis. O. r. M. ♃.) lip obovate, undivided, crenate, retuse; petals straight; lateral ones longest; spur clavate, shorter than the germ: bracts longer than the flowers: stem leafless. Leaves radical, oval, glabrous. 3—6 i. *S.* Mch.

flava, (y. Ju. ♃.) lip 3-cleft, entire; middle division larger, (ovate, entire, crenulate, N.) spur filiform, of the length of the germ: spike compact: bracts longer than the flower. 1—2 f. *S.* P.

obsoleta, W. (3) (J. ♃.) lip lance-oblong, undivided: bracts short: germ pedicelled: scape naked: spur obtuse, sub-inflated, as long as the germ; petals erect. P.

2. *Roots fascicled.*

virescens, W. (g. Ju. ♃.) lip lanceolate, crenate; petals connivent: bracts longer than the flowers: spur sub-inflated, obtuse. 12—18 i. P.

hyperborea, W. (g-y. Ju. ♃.) lip lanceolate, as large as the spreading petals; spur subulate, shorter than the germ: spike ovate: bracts as long as the flowers.

obtusata, Ph. (♃.) lip linear, very entire, longer than the spur; spur as long as the germ: leaf solitary, radical, sub-wedge-form, obtuse.

rotundifolia, Ph. (♃.) lip 3-cleft; middle division 2-cleft: spur shorter than the germ: leaves roundish-oval. P. N.

Southern.

nivea, N. (w.) lip linear, oblong, entire; petals spreading; spur filiform, longer than the germ: lower leaves linear, very long; upper ones subulate.

viridis, (A. g-w. Ju.) lip linear, 3-toothed at the apex: petals connivent; spur obtuse, sub-inflated: bracts much longer than the flowers. 3 i.

bidentata, E. ( ) lip oval-oblong, 2-toothed at the base: petals ovate, spreading; spur shorter than the thickened germ, leaves narrow-lanceolate: stem nearly naked. 12—18 i.

Orchis, HABENARIA, TIPULARIA.

14—1. O'REAS. 63. Cruc. asc. dia.

involucrata, Cham. (w. p. ♃.) small: leaves radical, petioled, glabrous: bracts crowded under the pedicels, resembling an involucre: flowers in short racemes, bracted, pedicelled. A.

Oplotheca. Gr. *oplon*, armor, and *theca*, sheath, referring to the armed covering of the seeds.

Orchis. The Greek name of this plant.

Oreas. Gr. *oros*, *oreos*, of a mountain; on account of its habitation.

(1) Some of the species here described may belong to the genus HABENARIA.
(2) humilis, Mx. (3) Satyrium, P.

* The havoc made in the ORCHIS FAMILY by forcibly dismembering it requires this notice. Many common species are taken from ORCHIS and placed under HABENARIA—one under TIPULARIA, which was once the Limodorum unifolium. From NEOTTIA, the *pubescens* is taken and put under GOODYERA. From EPIPACTIS, 3 species are put under LISTERA. From ARETHUSA, 3 species are placed under POGONIA, and one under TRIPHORA. The *hyemale*, (putty root, adam and eve) was taken from CYMBIDIUM and placed under CORALLORHIZA, and lastly is placed under APLECTRUM. From MALAXIS, 1 species is removed to MICROSTYLIS. Students may look for ORCHISES under PLATANANTHERA, CRANICHIS, BLETIA, CALYPSO and EPIDENDRUM.

13—1. ORIG'ANUM. 42. Labi. aro. coo. e-ole.

vulgare, (wild marjoram. r. Ju. ♃.) spikes round-panicled, heaped: bracts ovate, longer than the calyx. 1—2 f. *S.* T. C. F.

Exotic.

marjorana, (sweet marjoram. [illegible].) spikes roundish, ternate, compact, peduncled: leaves petioled, oval, obtuse, smoothish. 6—12 i.

6—1. OR'NITHOGA'LUM. 16. Asph. stim. g-r. exp.

bracteatum, T. & J. (W. p. ♃.) scape bracted, one-flowered, terete: petals lance-oblong, obtusish: filaments linear: leaves filiform, channelled. 4 i.

Exotic.

umbellatum, (star of bethlehem. M. ♃.) flowers corymbed, peduncles larger than the bracts: filaments subulate: leaves linear, entire, emarginate. Naturalized. 6—8 i.

Ornithogalum, PHALANGIUM.

2—1. OR'NUS. 34. Olea. b. bit-ast.

americana, Ph. (M. [illegible].) leafets broad-ovate, serrate; terminal one obcordate.

13—2. OROBAN'CHE. 36. Orob. bit-ast. det.

uniflora, (1) (squaw-root, broom rape, cancer-root. O. p-w. J. ♃.) scapes in pairs, naked, 1-flowered: corol recurved. About 3 inches high, of a yellowish white color. *S.* Mch.

americana, (p-y. Ju. ♃.) stem simple, covered with imbricate lance-oval scales: spikes terminal, glabrous: corol recurved: stamens exsert. Hardly a span high: brownish yellow. *S.* P. W. Y. H. N. Canada. Mch.

Southern.

ludoviciana, N. (W. p.) pulverulent-pubescent: stem low, simple: flowers and ovate acute scales sub-imbricate: calyx 2-bracted: corol recurved: stamens inclosed, smooth. 3—4 i.

fasciculata, N. (W. p. Ju.) stem short, simple: peduncles numerous, naked, nearly terminal, about the length of the stem: scales few, ovate, concave, pubescent. 4—5 i.

Orobanche, EPIPHEGUS.

Orobus, HOMALOBUS, PSORALEA.

6—1. ORON'TIUM. 7. Aroi. g-r. acr-sti.

aquaticum, (golden club. y. M. ♃.) leaves lance-ovate: spike cylindric, on a scape. 12—20 i. *S.* P. Y. C. F. M.

13—2. OR'THOCAR'PUS. 36. Rhin. nar—. ast.

Southern.

luteus, N. (W. y. Ju.) stem simple, terete, hirsute-pilose: leaves alternate, sessile,

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Origanum. Gr. *oron*, a mountain, and *ganos*, joy, in allusion to its habitation and agreeable fragrance.

Ornithogalum. Gr. *ornis*, (*ornithos*,) a bird, and *gala*, milk; this is said to be the plant called dove's dung, in 2d Kings, vi. 25.

Ornus. Lat. *ornus*, the mountain ash, perhaps of *orns*, to adorn; or Gr. *oreinos*, from *oros*, a mountain.

Orobanche. Gr. *orobos*, the vetch, and *agchein*, to strangle, because it was thought to destroy whatever it grew on.

Orontium. Gr. *orontion*, said to be from the river Orontes in Asia Minor, wherefrom came the original plant.

Orthocarpus. Gr. *orthos*, straight, and *karpos*, fruit, by which it is distinguished from Melampyrum.

(1) biflora, N.

lance-linear, acute, entire; upper ones gradually larger: calyx, bracts and leaves viscid-pubescent. 12—14 i.

3—2. Or'thopo'gon. 10. Gram. far-ton.

Southern.

hirtellum, (1) (Au. ♃.) spike compound: spikelets appressed, alternate: glumes all awned, outer awn very long. Procumbent.

6—2. Ory'za. 10. Gram. far. ton. s. lax—. nut.

Exotic.

sativa, (rice. ☉.) culm jointed: leaves clasping: panicle terminal.

3—2. Oryzop'sis. 10. Gram. far. ton.

asperifolia, Mx. (mountain rice. M. ♃.) culm nakedish: leaves rigid, erect, pungent at the point: flowers in a racemose panicle. 18 i. C. M. T. N.

5—2. Osmorhiza. Umb. g-h. odo. sto. r. aro. sto. exp.

longistylis, Dc. (sweet cicily. O. J. ♃.) leaves compound, hairy: leafets gash-toothed: umbels axillary and terminal, about 5-rayed: style as long as the villose germ; filiform, erect, deflected. 2 f. *S.* Uraspermum Claytoni of 7th edition.

brevistylis, Dc. (W. J. ♃.) hirsute: leaves decompound: leafets gash-pinnatifid: styles of the fruit pyramidal, approximate. T. B. C. O. F. Uraspermum hirsutum of 7th edition.

Osmorhiza, Uraspermum.

21—1. Osmun'da. 5. Fili. sec-stim.

cinnamomea, Mx. (flowering fern. O. y. J. ♃.) barren frond doubly pinnatifid; segments oval, entire: fertile fronds with opposite racemes, woolly. 3—6 f. *S.* M. Mch.

interrupta, Mx. (O. g-y. J. ♃.) barren leafets on the frond, with the fertile ones above and below and sometimes among them. Damp. M. Mch.

regalis, Mx. (2) (O. r-y. J. ♃.) frond bipinnate, terminal in several racemes, very branching, without hairs. Wet. M. Mch.

claytoniana, W. (♃.) fronds pinnate, bearing fruit at the summit, pinnate-pinnatifid, having small dense masses of fulvous down at their origin. 20—30 i. Found in Cambridge, N. Y., by Dr. M. Stevenson. Stillwater, N. Y., Dr. Fitch.

19—12. Os'trya. 99. Betu. ton.

virginica, A. (3) (iron-wood, Lop hornbeam, lever wood. O. g. M. ♄.) leaves ovate-oblong, sub-cordate, acuminate, unequally serrate: strobiles oblong-ovate, pendulous; (erect, Ph.) buds acute. 20—40 f. *S.* Mch.

10—5. Ox'alis. 73. Oxal. asc+. ref. feb.

acetosella, (wood-sorrel. w. r. M. ♃.) stemless: scape 1-flowered, longer than the leaves: leaves ternate, broad obcordate, with rounded lobes: styles as long as the inner stamens: root dentate. T. Y. C. O. N. Mch.

Orthopogon. Gr. *orthos,* straight, and *pōgōn,* beard, referring to the straight beards of the flowers.

Oryza. Gr. *oruza,* rice, from the Arabac *êruz.*

Oryzopis. Gr. *oruza,* rice, and *opsis,* resemblance. The plant resembles rice.

Osmorhiza. Gr. *osme,* perfume, *riza,* root.

Osmunda. A word of northern origin, relating to medical powers.

Ostrya. Gr. *ostrus,* or *ostrua,* said to be from *ostreon,* a shell, from the resemblance found in its capsules.

Oxalis. Gr. *oxus,* sour, referring to its acid leaves.

(1) Panicum, L. (2) spectabilis, W. (3) Carpinus, Lk.

violacea, (violet wood-sorrel. W. p. J. ♃.) stemless: scape umbelliferous: pedicels sub-pubescent; flowers nodding: leaves ternate, obcordate, glabrous: divisions of the calyx callous at the apex: styles shorter than the outer stamens. Damp. *S.* T. Y. C. P. F. M. N.

stricta, (1) (yellow wood-sorrel. O. y. J. ☉.) hirsute: stem erect, branching: peduncles umbelliferous: leaves ternate, obcordate: petals obovate: styles of the length of the inner stamens. 6—12 i. *S.* R.

corniculata, (2) (lady's wood-sorrel. W. y. M. ☉.) pubescent: stem branching, diffused, or procumbent: umbels as long as the petioles: leaves ternate, obcordate: petals wedge-form, erose at the apex: styles of the length of the inner stamens. *S.* P. D. Y. F. R. Florida.

trilliifolia, Hk. (W.) stemless: peduncles umbelliferous, equalling the petiole: leaves ternate: leafets obcordate, glabrous: styles of the length of the inner stamens. R.

oregana, N. (w-p. y. ♃.) rhizoma creeping, thick and scaly: leafets very broadly obcordate, ciliate: scapes 1-flowered, shorter than the leaves, 2-bracteolate above the middle: petals oblong-obovate, emarginate: stamens and styles shorter than, or scarcely exceeding, the sepals. Oregon.

Oxybaphus, ALLIONIA.

8—1. OXYCOC'CUS. 51. Vacc. ton. ref. diu. f. gel. feb.

macrocarpus, P. (3) (craneberry. O. r. J. ♄.) creeping: stem ascending: leaves oblong, flattish, obtuse, becoming white beneath: pedicels elongated: divisions of the corol lance-linear. Wet. *S.* M. Mch.

vulgaris, Ph. (4) (low craneberry. r. J. ♄.) creeping: leaves oval, entire; margin revolute, sub-acute, becoming white beneath: peduncles elongated; divisions of the corol oval. Wet. Probably a variety of the first. T. C. D. F. M.

Southern.

erythrocarpus, Mx. (5) (A. J. ♄.) erect: leaves oval, acuminate, serrulate: ciliate: pedicels axillary: corol long, at length revolute.

Oxycoccus, GAULTHERIA.

3—2. OXYDE'NIA. 10. Gram. far. ton.

Southern.

attenuata, N. (6) (W. Au. ☉.) panicle simple: spikes very long, numerous, attenuated, somewhat sub-divided near the base: spikelets about 3-flowered: leaves flat, subulate at the point, and with the sheaths scattered with glandulous hairs. 2—3 f. K.

6—2. OXY'RIA. 28. Poly. ton. lax.

reniformis, Br. (7) (A. J. ♃.) outer sepals oblong, half the length of the inner obovate valves: radical leaves reniform, long-petioled: stamens 2: styles 2. 2—3 i. *S.*

16—10. OX'YTRO'PIS. 93. Leg. r. emo. sug.

uralensis, Dc. (r-w.) stemless: villose or silky: leafets lance-oblong: scapes longer than the leaves, scape and calyx hirsute-woolly, little heads many-flowered, ovate; flowers spreading: lower bracts longer than the calyx. R. A.

arctica, Br. (r-w.) scarcely stemless, silky: stipules petioled: leafets opposite and alternate, oval-oblong: little heads sub-umbelled, few-flowered: legumes erect, oblong, acuminate: calyx and legume with black pubescence. R. A.

campestris, Hk. (W y.) stemless: leafets many paired, lanceolate, silky: scape often decumbent, sub-equal to the leaves: spikes capitate or elongated: bracts a little shorter than the calyx: flowers erect: legumes erect, ovate, inflated, pubescent. R.

Oxycoccus. Gr. *oxus*, sour, and *kokkus*, berry, on account of its acidity.

Oxydenia. Gr. *oxus*, sour, and *adēn*, gland, from an acid which comes from the glandulose pubescence.

Oxyria. From Gr. *oxus*, acid, in allusion to the qualities of its leaves.

Oxytropis. From Gr. *oxus*, pointed, and *tropis*, a keel.

(1) dillenii recurved. (2) lyoni, furcata. (3) Vaccinium macrocarpon, A. Var. oblongifolius, Mx. (4) palustris, 2d ed. P. Vaccinium oxycoccus, Mx. (5) erectus, Ph. Vaccinium, Mx. (6) Eleusine mucronata, Mx? (7) Rumex digynus, L.

splendens, Hk. (W.) stemless: leafets 3 or 4, whorled, lanceolate, very acute, silk-hairy: scape longer than the leaves; scape and petioles with spreading hairs: spikes elongated: flowers longer than the bracts. Red River. R.

lamberti, Ph. (W. p. Ju. ♃.) stemless, silky-pilose: leafets numerous, lance-oblong, acute at each end: scape about equal to the leaves: spikes oblong-capitate: bracts lance-linear, about equal to the calyx. R. Red River.

lagopus, N. (b. ♃.) low, somewhat stemless, silk-woolly: leafets oblong-elliptic, somewhat 4-paired: little head sub-umbelled: calyx canescent, dense-woolly, longer than the ovate bracts: germs glabrous. R.

borealis, Dc. ( ) somewhat stemless: hairs of the scape and stipules setose, spreading, those of the petioles few: leafets lance-oval, glabrous below, hairy above: scapes of the length of the leaves: flowers in heads: bracts of the length of the darkly very hispid calyx. A.

foliolosa, (♃.) stemless: hoary villose: leaves numerous; leafets approximate, ovate or oblong-ovate, sub-acute: scapes pilose, longer than the leaves: little heads broad-ovate (small:) flowers crowded, spreading, lower ones reflexed: bracts lance-linear, shorter than the dark hirsute calyx: legumes remotish, deflexed, cylindrical, acute, dark hirsute. R. A.

nigrescens, Dc. ( ) subacaulis, many-edged: leafets (7—11) oval, acutish, villose: stipules and calyx dark-villose: peduncles 2-flowered, of the length of the leaves: legumes oblong, inflated, pubescent, 1-celled. A

sericea, N. ( ) stemless, somewhat cespitose, shining and whitish, with appressed silky hairs: leafets linear-oblong or lanceolate: scapes longer than the leaves: spikes short, elongated in fruit: bracts lanceolate, acuminate, shorter than the calyx: teeth of the calyx short and subulate: legumes somewhat cylindrical, acuminate, 2-celled, canescently pubescent. Rocky Mts.

plattensis, N. ( ) stemless, and somewhat cespitose, canescently villous: leafets oblong-elliptical or oblong-lanceolate, more or less acute: scape longer than the leaves: flowers in interrupted spikes: bracts subulate, shorter than the calyx: teeth of the calyx nearly half the length of the tube: wings dilated and emarginate. Plains of the Platte.

hookeriana, N. (M. J. p.) stemless, somewhat cespitose, pilose: leafets linear-lanceolate, acute at each end: scapes longer than the leaves: flowers in somewhat interrupted spikes: bracts foliaceous, lanceolate-linear, nearly the length of the calyx: teeth of the calyx subulate, nearly as long as the tube: wings dilated and emarginate. Plains of the Platte.

nana, N. (p.) stemless, cespitose, dwarf, canescently pilose: leafets about three pairs, elliptical-oblong, somewhat acute: scapes longer than the leaves: head few-flowered. bracts ovate-lanceolate, shorter than the very woolly calyx: teeth of the calyx short: wings dilated and emarginate. Plains of the Platte.

viscida, N. ( ) stemless, cespitose, hairy and viscid: leafets numerous, oblong-lanceolate, somewhat acute: peduncles longer than the leaves: stipules pilose, membranaceous, with a long acummation: spikes sub-cylindrical: bracts as long as the calyx: teeth of the calyx subulate, about the length of the tube: legumes short, terete, pubescent, acuminate. Rocky Mts.

multiceps, N. ( ) nearly stemless, cespitose, canescently silky: caudex divided above into numerous heads: leafets 3—4 pairs, elliptical-lanceolate: stipules adnate to the petiole, ovate, acute, membranaceous: scapes longer than the leaves, 2—3-flowered: bracts ovate: legumes ovate, acuminate, wholly included in the inflated calyx, half-2-celled. Rocky Mts.

deflexa, Dc. (p-w.) stem ascending, somewhat hairy: leafets ovate-lanceolate, pubescent: peduncles much longer than the leaves: legumes pendulous, hairy, 1-celled, opening widely at the summit. Rocky Mts.

Oxytropis, Astragalus.

P.

14—2. Pachypo'dium. 63. Cruc. asc. dia.

laciniatum, N. (w. ☼.) leaves all petioled, laciniate-pinnatifid: flowers pedicelled: petals narrow-linear. R. Macropodium laciniatum, 7th edition.

Pachypodium. Gr. *pachos*, thick, *podos*, (of *pous*,) foot.

integrifolium, N. (♂. r.) leaves entire; radical ones petioled, oblong-elliptical; cauline lanceolate-oblong, sessile; uppermost nearly linear: stem fastigiately branched: flowers almost corymbose, crowded: petals spatulate-obovate: pedicels twice as long as the calyx: stipe short, but distinct: silique abruptly pointed. Rocky Mountains.

sagittatum, N. (r-w. ♂.) leaves entire: the cauline ones lanceolate, sagittate, clasping: stipe almost wanting: petals obovate, the limb as long as the claw: silique abruptly pointed, nearly erect: raceme elongated in fruit. Rocky Mts.

19—4. Pachysan′dra. 96. Euph. r. ast. deob. sto. *jan.*

Southern.

procumbens, Mx. (W. A. g-w. J. ♃.) stem procumbent: leaves short, oval, crenate-toothed above: calyx minute-ciliate: capsule finely pubescent.

12—3. Pæo′nia. 61. Ranu. ton. stom.

brownii, Dougl. (r-p. J. Ju.) carpels 5, oblong, very glabrous, erect: leaves smooth on both sides, somewhat glaucous biternate: leafets ternately divided or pinnatifid, laciniate; laciniae oblong; those of the lower leaves obtuse. N. W. America.

Exotic.

officinalis, (peony. r. J. ♃.) leaves decompound: leafets lobed, lobes broad-lanceolate: capsules downy.

Southern.

californica, N. (March. A. r.) carpels 3, glabrous: leaves smooth on both sides, ternate; leafets broadly cuneate, nearly twice 3-cleft; lacinia oblong-lanceolate, acute. Upper California.

5—2. Pa′nax. 59. Aral. r. sia. ton. aro. cau.

trifolia, (dwarf ground-nut. W. w. ♃.) leaves in threes, ternate, or quinate; leafets serrate, lance-oblong, sub-sessile: root tuberous, roundish. Styles generally three. Root round-tuberous, and very deep in the earth in proportion to the size of the plant. 6—9 i. S. B. P. C. D. F. O. N. T. V. K. Mch.

quinquefolia, (ginseng. W. A. w. M. ♃.) root fusiform: leaves ternate, quinate; leafets oval, acuminate, petioled, serrate. Larger than the last. 1—2 f. S. T. N. F. D. B. C. O. V. Mch.

horridum, S. (   ) fruticose, somewhat creeping, all over aculeate: leaves palmate lobed, gash-serrate: umbels capitate, racemed: styles and seeds two. 10—12 f. R. A.

6—1. Pancra′tium. 17. Amar. r. eme+.

Southern.

mexicanum, W. (w. M. ♃.) spathe about 2-flowered: leaves lance-oblong: 6 teeth of the nectary staminiferous: 6 intermediate, simple. 18—24 i. S—C.

maritimum, W. (1) (w. Ju. ♃.) spathe many-flowered: leaves lance-linear: nectary with 12 teeth, not staminiferous. 12—18 i.

rotatum, Ker. (W. w. Ju. ♃.) spathe many-flowered: leaves lance-linear: nectary salver-form, tubular below, with 6 stamen-bearing teeth; intermediate one gash-toothed: stamens twice as long as the nectary.

Pachysandra. Gr. *pachus*, thick, clumsy, and *aner*, *(andros,)* stamen; from their size.

Pæonia. Said to be named from Pæon; who, according to Mythology, cured Pluto with it.

Panax. Gr. *panax*, or *panakes*, from *pan*, all, and *akos*, medicine, being supposed an universal panacea by the Chinese.

Pancratium. Gr. *pan*, all, and *krates*, to overcome; in allusion to its powerful medical effects.

(1) carolinianum, L.

3—2. PAN'ICUM. 10. Gram. far. ton.

crus-galli, (1) (barn grass. O. Au. ☉.) racemes alternate and in pairs, compound: rachis 5-angled: glumes terminating in hispid bristles: sheath glabrous. 2—4 f. *S.* Mch.

hispidum, M. (2) (L. S. ☉.) panicle compound, nodding: racemes alternate: glumes terminating in hispid bristles: sheath hipid. 3—4 f. *S.* Y. O.

clandesti'num, (3) (W. Au. ♃.) culm with short axillary branches: leaves broad-lanceolate, cordate at the base: sheaths hispid, enclosing the short panicles: abortive floret neutral, 2-valved: upper valve obtuse. 2—3 f. O. N. T.

pedunculatum, T. (Ju. ♃.) culm dichotomous: leaves broad lanceolate, sub-pilose above, attenuate: sheaths hispid and papillose: panicle long, peduncled, compound, smooth: spikelets ovate, smooth: abortive floret 2-valved: upper valve half the length of the lower one. 3—4. f.

latifolium, (W. Ju. ♃.) culm generally simple, bearded at the joints: leaves lance-oblong, smooth, or with the sheaths somewhat pubescent: panicle terminal, a little exsert, simple, pubescent; spikelets oblong-ovate: abortive floret antheriferous, 2 valved; upper valve sub-herbaceous, nearly as long as the lower, acute. 1 f. *S.* B. P. C. O. N.

scoparium, Lk. (♃.) softly villose: leaves lanceolate: panicle erect, compound setaceous, much branched: spikelets turgid, ovate, pubescent. 2 f. *S.* P. Y.

nervosum, M. (Ju. ♃.) culm simple: nodes smooth: leaves broad-lanceolate, smooth, sub-ciliate on the margin: panicle much branched, smooth, many-flowered: spikelets oblong: abortive floret antheriferous, with the upper valve sub-herbaceous, shorter than the lower one. 3—4 f. *S.* Y. B. P. N. Mch. T.

macrocarpon, T. (♃.) culm erect, simple: leaves lance-linear, erect, a little hairy beneath: joints naked: sheaths hispid: panicle rather compound, smooth: spikelets ovate-globose: abortive floret neutral. 3 f. Y. N.

pubescens, Lk. (J. ♃.) erect, much branched, leafy, soft pubescent: leaves lanceolate, ciliate: panicle small, few-flowered, free; spikelets sub-globose-obovate, pubescent. 18 i. *S.* P. Y. O.

involutum, T. (♃.) culm cespitose, simple, or a little branched at the base: leaves erect, somewhat rigid, very narrow, at length involute: panicle simple, few-flowered; florets acuminate: upper valve of the neutral floret very small. 1 f. N.

depauperatum, M. (J. ♃.) culm cespitose, hairy at the joints: leaves lance-linear, smooth or hairy: sheaths pubescent: panicle few-flowered: branches in pairs; one of them 2-flowered, the other 1-flowered. 1 f. P. V. N.

dichotomum, (W. Au. ♃.) culm much branched, dichotomous above: branches fascicled: leaves numerous, smooth, lanceolate: panicle simple, capillary, lax: abortive floret neutral; upper valve minute, 2-cleft. Var. *curvatum*, culm very tall, rather rigid: branches few, somewhat curved. Var. *fasciculatum*, culm low, erect, or decumbent: branches and leaves dense-fascicled: panicles very small, concealed among the leaves. Var. *gracile*, culm tall, slender, leaves membranaceous. 8—16 i. *S.* P. Y. B. C. O. H. N. Mch.

nitidum, Lk. (panic grass. W. Ju. ♃.) culm slender, simple, erect, smooth: sheath bearded at the throat: leaves few, remote, broad-linear: panicle capillary, rather crowded, compound, smooth: spikelets minute, obtuse, ovate, sub-pubescent: lower glume very small. Var. *ciliatum*, culm hairy, leaves lance-linear, (lower ones broader) sparingly hirsute, ciliate on the margin: panicle with the branches and flowers pubescent. Var. *ramulosum*, culm more branched: panicle contracted; branches smooth. Var. *gracile*, culm very slender, smooth, leaves very narrow, smooth: sheaths smooth: panicle sub-simple, few-flowered, smooth: upper valve of the abortive floret minute, entire? Var. *pilosum*, culm simple, very hairy: lower leaves approximate and broad-lanceolate: upper ones linear, rather rigid, sub-pilose above, ciliate at the base: sheaths villose, minutely papillose: panicle sub-contracted; branches virgate, with the flowers pubescent. Var. *glabrum*, (4) smooth all over except the base of the leaves, nearly simple: lower leaves short, approximate, sub-cartilaginous: panicle branched, almost verticillate; spikelets large; upper valve of the abortive floret entire. Var. *barbatum*. (5) culm simple, smooth;

Panicum. Lat. *panicum*, from *paniculus*, in allusion to the great number of panicles; or from Lat. *panis*, bread.

(1) Echinochloa crus-galli, Rs. (2) walteri, Ph. crusgalli, V. hispidum, E. (3) latifolium. Var. clandestinum, Ph. (4) nitidum, Sz. (5) discolor, M.

nodes hairy: leaves lance-linear: sheaths smooth, except on the margin: panicle sub-simple, smooth: flowers minute, pubescent. 1—2 f. P. Y. T. B. C. O. H. M. N. Mch.

agrostoides, M. (1) (W. Au. ♃.) culm compressed, smooth, erect: leaves very long: panicles lateral and terminal, pyramidal, spreading: branches racemiforous: spikelets appressed: valves of the abortive floret neutral, valves nearly equal. 2—3 f. P. Y. M. N. K. Y.

virgatum, (W. Au. ♃.) all over very smooth: panicle diffuse, very large: flowers acuminate: abortive floret nearly equal. 3—4 f. *S.* B. O. C. N. Mch. T.

anceps, Mx. (2) (Au. ♃.) culm compressed; sheaths ancipitous, pilose: panicle with nearly simple branches: spikelets sub-racemose, much acuminate: abortive floret neutral; upper valve 2-cleft. 3 f. *S.* P.

rectum, R. & S. (3) (Ju.) panicle solitary, shorter than the terminal leaf: branches simple, flexuous: spikelets alternate, peduncled, obovate, turgid: glumes striate, acute: leaves linear, straight, tapering to a sharp point, striate and scabrous above, hairy beneath: sheaths with very long hairs. P. M.

verrucosum, M. (4) (Au. ♃.) culm slender, decumbent and geniculate, branched below, smooth: leaves smooth: panicle very spreading, few-flowered: flowers verrucose; abortive floret 1-valved. 18 i. *S.* Y.

proliferum, Lk. (5) (W. S. ☉.) culm assurgent, geniculate at the base, very smooth: panicles terminal, and axillary, smooth: spikelets racemose: abortive floret 1-valved. 2—4 f. *S.* P. Y. C. K.

capillare, (W. S. ☉.) culm nearly simple: sheaths very hairy: panicle large, capillary, expanding, loose: spikelets long-peduncled, acuminate, smooth; abortive floret 1-valved. Var. *sylvaticum*, culm branched at the base, very slender: leaves linear. 1—2 f. *S.* T. N. Mch.

longifolium, T. (S. ♃.) very smooth: culm compressed, erect, simple, slender: leaves very long, narrow: panicle simple, elongated, racemose: spikelets acuminate; abortive floret neuter, 2-valved. 2 f.

nodiflorum, Lk. (Ju.) panicles very small, lateral and terminal: glumes ovate, pubescent: leaves narrow, short, bearded at the throat. B.

ciliatum, E. (J. ♃.) stem decumbent: panicle few-flowered, expanding: leaves short, lanceolate, and with the sheaths glabrous and finely ciliate. 8—15 i. *S.* P.

pauciflorum, E. (J. ♃.) panicle expanding, few-flowered: flowers very large: leaves narrow-lanceolate, ciliate at the base: sheaths hairy. 12—18 i. *S.* P.

Southern.

fus'co-ru'bens, Lk. (Au.) racemes linear, virgate: glumes clavate, colored, hairy under the divisions of the panicle.

striatum, Lk. ( ) panicle oblong: glumes large, glabrous, green, handsomely striate.

diffusum, Sw. (Ju.) panicle simple, capillary, expanding: florets remote, acute: stem simple: leaves long-linear, with the throat and sheaths villose.

gibbum, E. (Ju. ☉?) racemes many-flowered, appressed, resembling a columnar spike: glumes strongly nerved, the exterior gibbous at the base: flowers caducous.

molle, Mx. (Au. ♃.) spikes panicled, alternate, expanding, one-sided; spikelets approximate, pedicelled, secund, awnless. 4—6 f.

gymnocar'pon, E. (Au. ♃.) spikes panicled; spikelets in 2 rows, few-flowered: glumes sub-equal, expanding, much longer than the paleas. 2—4 f.

hians, E. (Au. ☉?) stem glabrous, slender, decumbent: panicle racemose: valves of the neutral floret long, concave, gaping. 10—15 i.

amarum, E. (Oc. ☉?) very glabrous: leaves thick, glaucous: panicle appressed: glumes acuminate. 2—3 f.

scabriusculum, E. ( ) stem erect, large, and with the under surface of the leaves scabrous: panicle large, pyramidal, expanding: flowers ovate, acute, glabrous. 2—3 f.

multiflorum, E. (J. ♃.) stem erect, simple, glabrous: leaves broad-lanceolate, hairy at the base: panicle very branching, spreading: flowers small pubescent. 24—30 i.

ovale, E. ( ) pubescent: panicle diffused: flowers oblong, oval, hairy: leaves lance-ovate, sub-cordate. 1—2 f.

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(1) elongatum, Ph. (2) rostratum, M. (3) strictum, Ph. (4) debile, E.
(5) dichotomiflorum, Mx. geniculatum, M.

lanuginosum, E. (♃.) pubescent: panicle diffused, somewhat capillary: flowers oval, small: leaves narrow lanceolate: sheaths villous at the throat. 1—2 f.

viscidum, E. (J. ♃.) very downy, hoary, glutinous: stem beneath each joint marked with a smooth ring. 2—4 f.

villosum, E. (M. ♃.) villose: stem erect, somewhat branched: panicle few-flowered: flowers obovate: leaves erect, flat, rigid. 1—2 f.

sphae'rocarpum, E. (Ap. ♃.) leaves lance-linear, very acute, base and sheath ciliate: panicle spreading; flowers small, roundish, pubescent. 12—18 i.

ensifolium, Bald. (M. ♃.) small, glabrous: leaves lance-ovate, very acute, spreading: panicle small, few-flowered: flowers sub-ovate, pubescent. 12—18 i.

barbulatum, Mx. (J. ♃.) panicle compound, spreading: leaves lance-ovate, sub-acuminate, sub-divaricate: joints of the stem bearded.

melicarium, Mx. ( ) stem weak: leaves narrow: panicle contracted: glumes membranaceous, lanceolate, nearly equal: rudiments of a floret on a short footstalk.

angustifolium, E. (M.?) panicle few-flowered, spreading: leaves scattered, lance-linear, glabrous beneath, sparingly ciliate. 1—3 f.

divergens, E. (Au. ♃.) stem assurgent, fragile: panicle diffuse: flowers small, solitary, very long peduncled. 1 f.

laxiflorum, Lk. (W. ☉.) panicle spreading, lax, pilose: glumes scattered, obtuse, pubescent.

microcarpum, M. ( ) panicle capillary, very branching, expanding: flowers oval, minute, glabrous: leaves lance-linear, very glabrous.

Panicum, PENNISETUM.

12—1. PAPA'VER. 62. Papa. e. of f. ana-opi. s. ole.

nudicaule, W. (yellow poppy. y. ♂.) capsule hispid: scape 1-flowered, naked, hispid: leaves sub-pinnate; leafets lanceolate: lower ones somewhat gashed. R. Labrador.

Exotic.

rheas, (wild poppy. r. J. ☉.) capsules glabrous, sub-globose: stem many-flowered, pilose, with the hairs spreading: leaves gash-pinnatifid. Naturalized.

somniferum, (opium poppy. J. ☉.) calyx and capsule glabrous: leaves clasping, gashed, glaucous.

bracteata, Lind. (r. J.) capsules smooth: stem 1-flowered, rough: leaves scabrous, pinnate-serrate: flowers subtended by leafy bracts. 3 f.

dubium, L. (☉. r.) caulescent: stem hispid with spreading hairs: leaves pinnately parted; segments incised: peduncles clothed with appressed bristly hairs: capsules hispid, obovate-oblong. Naturalized in Chester County, Pennsylvania.

19—4. PARIETA'RIA. 98. Urt. ast.

pennsylvanica, (pellitory. W. J. ☉.) leaves lance-oblong, veiny, with opake punctures: involucre 3-leaved, longer than the flower. 12—15 i. *S.* N. D. Abundant at Benaft Mt., near Hudson.

Southern.

floridana, N. (J.) leaves ovate, roundish, obtuse, opake, dotted: flowers clustered, as long as the involucre: stem assurgent. 12—18 i.

5—4. PARNAS'SIA. 84. Saxi. ton.

americana, M. (1) (flowering plantain, parnassus grass. w. y. p. Ju. ♃.) leaves radical (often a leaf on the scape) heart orbicular, 5 to 9-nerved: nectaries five, each divided into 3 filaments terminated by little spherical heads. Damp or wet. 6—18 i. *S.* T. W. V. Y. P. C. D. N. F. O. Mch.

Papaver. Lat. *papaver*, from Celtic *papa*, pap, because it was given to infants to induce sleep.

Parietaria. Lat. *paries (tis)* a wall, in allusion to the place of its growth, which is on old walls and ruins.

Parnassia. From the famous Mt. Parnassus, its place of growth.
(1) caroliniana? Mx.

palustris, (w-y. Ju.) scales numerous, slender bristles: leaves all cordate; cauline ones sessile. Canada, Labrador.

parriflora, Dc. (W.) very slender, with slender bristly scales, about 5: radical leaves ovate, tapering into the petiole; cauline ones linear-oblong, sessile. R.

kotzebuii, Hk. (W.) scales three, slender bristles: radical and cauline leaves heart-ovate: petals somewhat 3-nerved, shorter than the calyx.

fimbriata, Hk. (W.) scales broad, wedge-form, fleshy, crenate in the middle, within keeled, naked: radical leaves long-petioled, ear kidney-form; cauline ones cordate, sessile, inserted much above the middle: petals fringed at the base. R.

Southern.

asarifolia, Vent. (A. Au. ♃.) radical leaves reniform: petals clawed; nectaries 3-cleft.

5—1. PARONY'CHIA. 23. Ille. ast—.

jamesii, T. & G. ( ) minutely scabrous-pubescent, cespitose, much branched from the base: leaves linear-subulate, obtuse: cymes dichotomous, few-flowered, crowded, with a central sub-sessile flower in each division: sepals minutely hairy at the base, linear-oblong, obscurely 3-ribbed or even, with a very short cusp, arched at the summit within: setae as long as the filaments. Rocky Mts. Oregon.

ramosissima, Dc. ( ) diffusely branched, prostrate; stems sub-frutescent at the base, woolly: leaves subulate, pungent, crowded, at length reflexed: stipules imbricated, shorter than the leaves: flowers axillary, sessile: sepals hairy, the two inner pungent: stigmas sub-sessile. California and Oregon.

Southern.

drummondii, T. & G. ( ) minutely pubescent: stem erect, branching above into numerous cymes: leaves linear-oblong, short; the uppermost mucronate: calyx turbinate at the base, with a ring of hooked hairs: sepals broadly scarious and dilated above, the back produced into a short, somewhat recurved horn: sterile setae very minute. Texas.

setacea, T. & G. ( ) nearly glabrous: stem erect, branching into the many times dichotomous, diffuse cyme: leaves subulate-setaceous, erect: bracts similar, cuspidate: sepals hairy at the base, minutely scarious on the margin, the back produced into a slender, diverging awn: sterile setae as long as the filaments. Texas.

herniarioides, N. (Ju. ♃.) prostrate, clustered, all over pubescent: leaves oblong-oval, ciliate, mucronate: divisions of the calyx subulate, spreading and setaceous at the point. *Queria herniarioides*, 7th edition.

argyrocoma, N. (W. J. ♃.) cespitose, procumbent: stem pubescent: leaves linear, very acute, sub-pilose: the little heads fascicled, terminal, silvery: calyx pilose, with the tips bearded and long-acuminate. *Queria argyrocoma*, 7th edition.

sessiliflora, N. (W. Ju.) cespitose, diffusely branched: leaves glabrous, very short, linear, reflected, acute: stipules subulate, irregularly lacerate, nearly equal to the leaves: flowers terminal, sessile: outer points of the calyx capillary, attenuated. *Queria sessiliflora*, 7th edition.

Paronychia, QUERIA.

14—2. PARRYA. 63. Leg. r. con. *asc.*

macrocarpa, Br. ( ) siliques broad-linear: anthers linear: leaves broad-lanceolate, gash-toothed. Var. *aspera*, pilose glandulous. Var. *glabra*, whole plant glabrous. A.

arctica, Br. ( ) siliques linear-oblong: anthers oval: leaves very entire: peduncles very glabrous. A. Melville Island.

Parrya, HESPERIS.

17—4. PARTHE'NIUM. 55. Ambr. l. aro-bit. deo. stim.

integrifolium, (W. A. w. S. ♃.) leaves oblong, unequally toothed, rough; upper ones clasping. 1—2 f. H. K. M.

Paronychia. Gr. *para*, near, *nucha*, by night. A Grecian salve for sore fingers.
Parrya. In honor of a celebrated voyager in the Arctic seas.
Parthenium. Gr. *parthenos*, a virgin; from its efficacy in some diseases.

3—2. Pas'palum. 10. Gram. far. ton.

ciliatifolium, Mx. (1) (W. S. ♃.) culm decumbent: leaves hairy, ciliate: sheaths hairy: spikes 1—2, rather lax, indistinctly 3 rowed. 18 i. *S.* P. Y. H. M.
setaceum, Mx. (2) (paspalon grass. ♃.) culm erect: leaves and sheaths villous: spikes sub-solitary: flowers in 2 rows. 1—2 f. *S.* P. C. N.
laeve, Mx. (W. S. ♃.) erect, very smooth: leaves short: spikes numerous, (3—6) alternate: flowers 2-rowed, smooth. 2 f. *S.* P. K.
stoloniferum, Bosc. (Au.) spikes in elongated racemes, somewhat whorled, spreading: flowers serrulate-ciliate, transversely rugose: leaves short, sub-cordate: culm procumbent at the base. 2 f. Y.

Southern.

debile, Mx. ( ) stem weak: leaves and stem hairy: spike generally one, slender: flowers alternate, 1-rowed.
floridanum, Mx. (Au.) stem erect: lower leaves very villose; upper ones scabrous, pilose: sheaths very long: spikes few: flowers in 2-rows, glabrous, large. Var. *glabrum*, upper leaves glabrous. 3—4 f. S—C.
plicatulum, Mx. ( ) glabrous: stem erect: leaves long, narrow: spikes numerous, alternate, erect: flowers in 3 rows; the flat valve transversely plaited near the margins.
praecox, Wr. (Ju.) stem erect: leaves lance-linear, glabrous: spikes numerous, alternate: rachis narrow, hairy at the base: flowers in 3 rows.
purpurascens, E. (Au.) stem erectish: leaves long, purplish, hairy at the the throat: spikes numerous, villose at the base: flowers in 4 rows.
distichum, Wr. (Ju. ♃.) stem creeping: leaves short, sub-glaucous, shining: spikes 2; one sessile: glumes lanceolate.
vaginatum, E. (Ju.) very glabrous: stem creeping, branching: leaves linear: spikes generally 2, terminal, sheathed by a terminal leaf. 12—18 i.

15—5. Passiflo'ra. 97. Pass. r. eme. pec.

lutea, (yellow passion flower. W. y. S. ♃.) leaves cordate, 3-lobed, obtuse, glabrous: petioles glandless: peduncles axillary, in pairs: petals much narrower than the calyx. P. M. Charleston, S—C.
incarnata,|W. (W.w. & p. Ju. ♃.) leaves 3-lobed, serrate; lobes oblong, acute; petioles with two glands: involucre 3-leaved; leaves lanceolate, glandular-dentate: threads of the crown longer than the corol. Florida. S—C.

Exotic.

cœrulea, (blue passion flower. b. Ju. ♄.) leaves palmate, 5-parted, entire; petioles glandular: involucre 3-leaved, entire: threads of the crown shorter than the corol.
ala'ta, (winged passion flower. Oc. ♄.) leaves oblong-ovate, sub-cordate, entire, veiny; petioles with 4 glands: stipules lance-falcate, sub-serrate: involucre 3-leaved: stem 4-cornered, membranaceous.

Southern.

peltata, W. (♄.) leaves peltate, deeply 3-lobed, glabrous: lobes lance-linear; petioles with 2 glands: peduncles solitary, axillary: petals 0.
warei, N. (♃.) lower leaves 3-lobed, acute; upper ones undivided, ovate; petioles with 2 glands: peduncles somewhat in pairs. 4—6 i.

5—2. Pastina'ca. 60. Umbe. h. & r. odo. aro. car. stim.

sativa, (parsnip. y. Au. ♂.) leaves simply pinnate: leafets glabrous. Var. *arvensis*, leafets sub-pubescent. This variety is often found in situations which almost prove it to be indigenous. Found native among the Rocky Mts. Mch.

Pastinaca, Œnanthe.

Paspalum. Gr. *paspalos*, millet, which this plant resembles in its seeds.
Passiflora. Altered by Linneus, from *flos passionis*, or passion flower.
Pastinaca. Lat. *pastinum*, a forked tool; which the roots resemble.
(1) ciliatum, Ph. dasyphyllum, E. (2) pubescens, M.

3—1. Pâtrin'ia. 56. Vale. r. ner+. sed+.

ceratophylla, H. (w.) stem very glabrous: leaves all somewhat fleshy, pubescent, petioled: radical ones lance-linear, entire or pinnate, or parted-bipinnate, lobes divaricate; cauline leaves deeply pinnatifid; divisions linear: panicle elongated: peduncles ternate-verticillate. R.

longifolia, McNab.* (w.) stem very glabrous: leaves ciliate, lanceolate, entire or remotely pinnatifid, somewhat parallel nerved: radical ones very longly attenuated below; cauline ones very few, narrow: panicle crowded (when immature.) 4 i. On the banks of the Maitland river, near Goderich, Upper Canada.

Pavia, Aesculus.

17—2. Pec'tis. 55. Cory. r. exp. ton. sec-stim.

angustifolius, T. (A. y. ☉.) stem branching at the base, diffuse: leaves narrow-linear, mucronate, denticulate at the base: teeth terminating in hairs: flowers terminal, solitary, short peduncled: involucre 8-leaved: chaff short, 5-toothed. 1—2 i.

13—2. Pedicula'ris. 36. Rhin. nar. ast.

canadensis, (louse-wort. O. y-p. p-w. M. ♃.) stem simple: leaves pinnatifid, gash-toothed: heads leafy at the base, hirsute: corol with a setaceous, 2-toothed upper lip: calyx obliquely truncate. 6—12 i. S. Mch.

pallida, P. (1) (y. Ju. ♃.) stem branching, tall: leaves sub-opposite, lanceolate, crenate, toothed: spikes leafless, glabrous, upper lip of the corol obtuse: calyx 2-cleft, roundish. 2—3 f. S. T. C. Y. P. Niagara. Mch.

resupinata, W. (p. Ju. ♃.) stem simple, glabrous: leaves lanceolate, toothed, crenate: calyx bifid-truncate: upper lip of the corol acute. P. Canada.

hirsuta,. (r. ♃.) stem simple: leaves pinnate: leafets lanceolate, obtusely toothed: calyx hirsute, 5-cleft: upper lip of the corol very obtuse.

euphrasioides, W. (y. ♃.) stem branching, pubescent: leaves pinnatifid, toothed: calyx tubular, 2-parted, truncate: upper lip of the corol 2-toothed. Labrador. 6—8 i.

recuti'ta, W. (W. p. Ju. ♃.) stem simple: leaves deeply pinnatifid; divisions lanceolate, pinnatifid-toothed: spike compact, leafy: calyx glabrous, 5-toothed: upper lip of the corol very obtuse.

elata, W. (W. p. Ju. ♃.) stem simple: leaves deeply pinnatifid: divisions lance-linear, crenate: spike lax, somewhat leafy: calyx glabrous, 5-toothed: upper lip of the corol obtuse, truncate. 2 f.

lapponica. W. (y. Ju. ♃.) stem simple: leaves pinnatifid; divisions serrate: calyx 2-cleft, oblong: upper lip of the corol uncinate, truncate. Labrador.

groenlandica, W. (W. p. Ju. ♃.) stem simple: leaves deeply pinnatifid; divisions lanceolate, acuminate, serrate: calyx glabrous, 5-toothed: corol closed; upper lip uncinate-subulate.

verticella'ta, Ph. (W. b. ♃.) stem simple: cauline leaves deeply pinnatifid in fours: divisions linear, acutely toothed: spike capitate, involucred: calyx villose, 5-cleft: upper lip of the corol very obtuse. 2 i.

flam'mea, W. (y. &. r. ♃.) stem simple: leaves pinnate; leafets imbricate, ovate, obtuse, doubly toothed: calyx 5-toothed: upper lip of the corol obtuse. Labrador. 3 f.

Patrinia. In honor of M. Patrin, a French botanist.

Pectis. From *pecten*, a comb, to which the teeth of the pappus or the fringed bases of the leaves of P. ciliaris may be compared.

Pedicularis. Lat. *pediculus*, a louse, because it is said to destroy lice.

* A very intelligent Scotch botanist, who collected plants in our Lake country, in 1834.

(1) serotina, M. lanceolata, Mx.

15—7. PELARGO'NIUM. 73. Gera. aro. ton. ast.

Exotic.

1. *Nearly stemless: root tuberous.*

triste, (mourning geranium.) umbel simple: leaves rough-haired, pinnate; leafets bi-pinnatifid; divisions oblong, acute. Flowers dark-green.
daucifolium, (carrot geranium. ♃.) scape very simple: leaves thrice pinnate, hirsute; leafets lance-linear.

2. *Leaves simple, not angled.*

odoratissimum, (sweet-scented geranium. ♄.) peduncles sub-5-flowered: leaves round-cordate, very soft.

3. *Leaves simple, more or less angled or lobed.*

zonale, (horse-shoe geranium. ♄.) umbels many-flowered: leaves heart-orbicular, obsoletely lobed, toothed, with a colored zone or band around near the margin.
in'quinans, (scarlet geranium. ♄.) umbels many-flowered: leaves round-reniform, hardly divided, crenate, viscid-downy.
acerifolium, (lemon or maple-leaf geranium. ♄.) umbels about 5-flowered: leaves 5-lobe-palmate, serrate; below wedge-form, undivided.
capitatum, (rose-scented geranium. ♄.) flowers capitate: leaves cordate, lobed, waved, soft: stem diffuse.
quercifolium, (oak-leaf geranium. ♄.) umbels sub-many-flowered: leaves cordate, pinnatifid, crenate; sinuses rounded: filaments ascending at the apex.
grave'olens, (sweet-rose geranium. ♄.) umbels many-flowered, sub-capitate: leaves palmate-7-lobed; divisions oblong, obtuse; margins revolute.

3—2. PENN'ISE'TUM. (1) 10. Gram. far. ton.

viride, (Ju. ☉.) spike cylindrical: involucre of 4—10 fasciculate bristles, scabrous upwards: spikelets in pairs: perfect floret smooth: sheaths pubescent. Introduced? 18—24 i.
glaucum, (fox-tail panic. O. J. ☉.) spike cylindrical: involucre of many fascicled bristles, scabrous upwards: perfect floret transversely rugose. Var. *purpurascens*, sheaths hairy: glumes and bristles of the involucre hairy. Introduced? 2 f. S. Mch.
verticillatum, (2) (W. Ju. ☉.) spike somewhat whorled: bristles of the involucre 2, scabrous backwards: spikelets solitary: paleas of the perfect floret smoothish. Introduced! 18 i. V. Y. P.
italicum, (3) (Ju. ☉.) spike compound, interrupted at the base, nodding: spikelets conglomerate: involucres much longer than the flowers: rachis tomentose. Introduced? 4 f. S. P. Y.
germanicum, W. (4) (bengal grass. Ju. ☉.) spike compound, compact: spikelets glomerate; rachis hirsute: bristles short. Introduced? 2—4 f.

Southern.

pungens, N. (5) (☉?) spike terete, strict: involucre many-parted, 1-flowered; segments terete, subulate, rigid, scabrous, a little longer than the florets.
laevigatam, M. (6) (Ju. ♃?) very smooth: stem compressed: spike columnar; spikelets 1-flowered: involucels 10-awned. 1—2 f.
corrugatum, E. (7) (   ) spike terete, compound, bristly; spikelets many-flowered, (7—10): paleas transversely rugose. 2—3 f.

Pelargonium. Gr. *pelargos*, a stork, because the fruit resembles the bill of that bird.
Pennisetum. Lat. *penna*, a feather, and *seta*, bristle, from the feathery appearance of the bristly involucre.

(1) Panicum, L. Setaria, Ph. (2) Panicum alopecuroideum, Wr. (3) Setaria, Ph. (4) Panicum, W. (5) Panicum cenchroides, E. (6) Panicum, M. (7) Panicum, E.

10—5. Pentho'rum. 83. Cras. muc. ooo. lax.

sedoides, (virginian orpine. O. g-y. Ju. ♃.) stem branching, angled: leaves lanceolate, sub-sessile, unequally and densely serrate: spikes secund, terminal, panicled, alternate and cymed: seeds pitted. 12—18 i. S. Mch.

13—2. Pentste'mon. 37. Scro. cat. eme.

pubescens, W. (1) (beard-tongue. O. w-p. J. ♃.) stem hairy: leaves serrulate, lance-oblong, sessile: flowers panicled: the barren filament bearded from the apex to below the middle. Var. *latifolia*, has broad smooth leaves. Var. *angustifolia*, has narrow, hairy, obscurely denticulate leaves. 1—2 f. S. Mch.

lævigata, W. (2) (W. w-p. Ju. ♃.) stem glabrous: leaves smooth, oblong-ovate, clasping at the base, slenderly toothed, lower ones entire: flowers panicled: barren filaments bearded above. 2 f. S. P. T. M.

frutescens, Lb. (W. p. ♄.) stem fruticose: branches angled, pubescent above: leaves lanceolate, obsoletely denticulate, sessile, nearly glabrous: raceme terminal, sub-corymbed: sterile filament bearded. 12—18 i.

alpinum, T. (W. b.) very glabrous: corol somewhat bell-form: limb nearly equal, 5-lobed: leaves lance-oblong, crenulate-denticulate on the margin: divisions of the calyx lanceolate, acute: anthers hirsute: sterile filament shorter than the two longest stamens, bearded below the retuse apex. 6 i.

ambiguum, T. (W. p.) stem fruticose, very branching: leaves linear, shining, concave, mucronate, scabrous on the margin: panicle simple: divisions of the calyx ovate, acuminate: sterile filament glabrous. 8—10 i.

cristatum, N. (3) (W. p. ♃.) stem low, pubescent: leaves oblong, acute, obsoletely denticulate, sub-hirsute: pedicels axillary and terminal, 1 to 3-flowered, very short: sterile filaments exsert, revolute at the apex, bearded: divisions of the calyx lance-linear, acuminate, hirsute. 6—8 i.

grandiflorum, N. (4) (W.) very glabrous: leaves half-clasping, ovate-oblong, entire; upper ones roundish: flowers solitary and axillary: sterile filament partly pubescent at the summit: divisions of the calyx oblong, acute. D.

gracile, N. (W. p. J) stem smooth, slender: leaves smooth, linear, acute, half clasping, sharp-serrulate: sterile filament bearded longitudinally: divisions of the calyx linear oblong. 12—24 i. D.

campanulatum, W. (p. Ju. ♃.) stem glabrous, barren filament bearded above: leaves lanceolate, acuminate; all sharply serrate. R.

micranthum, N. (p. Ju. ♃.) smooth: leaves lance-linear, acute, somewhat clasping, very entire: flowers small, glomerate, interruptedly spike-panicled: corol sub-tubulous, bearded within: sterile filament minute, scarcely bearded: divisions of the calyx lanceolate, acute. 12—14 i. R.

pumilum, N. (J ♃.) finely pubescent: sub-cespitose: leaves lance-linear, acute, entire: stem very short, few flowered: flowers largish, glabrous: sterile filament bearded above: divisions of the calyx lanceolate, acuminate. 3—4 i. R.

Southern.

coeru'leum, N. (5) (W. b. ♃.) smooth: radical leaves linear, entire; cauline ones lance-linear, entire: all sessile: sterile filament short, bearded above: divisions of the calyx lanceolate, acute, glabrous.

erianthera, N. (6) (W. p. J. ♃.) stem and leaves glabrous: leaves sessile, lance-ovate, entire, sub-undulate at the margin: peduncles many-flowered, secund: divisions of the calyx round-oval, acuminate: sterile filament slightly bearded under the retuse point: anthers pubescent.

albidum, N. (W. w.) low: leaves lance-ovate, sub-serrulate, smooth, sessile: flowers sub-fascicled, axillary and terminal: sterile filament slenderly and interruptedly bearded: divisions of the calyx lance-linear, pubescent. 6—8 i.

Penthorum. Gr. *pente*, five, and *oros*, a mark, in allusion to the 5-marked angles of the capsules, more or less perfect.

Pentstemon. Gr. *pente*, five, and *stema*, stamen, because this genus has a fifth imperfect stamen.

(1) Chelone pentstemon, Mant. (2) Chelone, Miller. (3) erianthera, Ph. (4) Bradburii, Ph. (5) angustifolia, Ph. (6) glabra, Ph.

dissectum, E. (p.) leaves opposite, sessile, compoundly divided; segments linear and generally obtuse: flowers panicled. 2 f.
nuttallii, Bk. (W.) very glabrous: leaves coriaceous, lance-ovate, denticulate, half clasping: flowers panicled: sepals ovate, acuminate: sterile filament bearded at the apex: anthers glabrous. 2—3 f.
hirsuta, W. (w-p.) stem and leaves hirsute.

Pentstemon, CHELONE.

Peplys, CRYPTA.

5—2. PERIPLO'CA. 47. Ascl. dia. exp. ton.

græca, (milk-vine. W. p. M. ♄.) flowers hirsute within; terminal, stigma with 10 crenatures. P.

Peritoma, CLEOME.

16—5. PE'TALOSTE'MON. (1) 93. Leg. f. nut. g-f. asc.

candidum, W. (2) (W. w. Ju. ♃.) spike cylindric, peduncled: bracts longer than the flower: calyx glabrous: leaves lanceolate, in 3 pairs. *S.* D. Red River. Chicago.
violaceum, W. (W. r-p. Au. ♃.) spike cylindric, peduncled: bracts about equal to the calyx: little bracts spatulate, caducous: calyx silky: leaves linear, in 2 pairs. D. Red River. Chicago.
villosum, N. (W. r. Au. ♃.) villous: stem decumbent: spike large, cylindric, sub-sessile: bracts shorter than the woolly, 5-toothed calyx: leafets linear-oblong, about 7-pairs.
macrostachyum, T. (W. w. ♃.) spike cylindric, compact, very long: bracts lanceolate, and with the calyx silky-villose: leafets about in 3 pairs, lance-oblong, glabrous. 2 f.

Southern.

carneum, Mx. (w. Ju. ♃.) spike cylindric, peduncled: bracts subulate, as long as the glabrous calyx: leafets lanceolate. 2—3 f.
corymbosum, Mx. (3) (w. S. ♃.) peduncles in panicled corymbs: calyx plumose: leafets linear, unawned. 2 f.
multiflorum, N. (W. w. ♃.) stem erect: branchlets fastigiate, sub-corymbed; little heads short, oblong: calyx pulverulent, longer than the bracts: leafets (9) linear-oblong, abbreviated. 1 f. Red River.
gracile, N. (w. ♃.) very glabrous, decumbent: spike cylindric, short: bracts acute, of the length of the calyx, deciduous: calyx-teeth short, glabrous: leafets 3 paired, linear-elliptic. Alabama, Florida.
decumbens, N. (W. p. J. ♃.) scarcely pubescent: stem decumbent, branching from the base: spikes cylindric, thick: bracts acuminate, longer than the pubescent calyx: leafets broadish, (7—9) cuneate-oblong, apiculate. Red River.
phleoides, T. & G. (♃. w.) stem pubescent: leafets and petioles hairy; leafets 6–8 pairs, linear-oblong, conspicuously dotted beneath: spikes cylindrical, on long peduncles: bracts awned, longer than the calyx, hairy: calyx glabrous, hairy on the margin, naked with large glands, cleft or obliquely truncated at the upper side; the teeth very short, approximated to the lower side: petals lanceolate-linear; vexillum broadly cordate. Arkansas, Texas.
oboratum, T. & G. ( ) very tomentose: stem erect or ascending: leafets 4 pairs, obovate, obtuse, silky-lanuginous beneath: spike sub-sessile, ovate, very thick: bracts ovate, acuminate, larger than the calyx, both densely villous: teeth of the calyx subulate, as long as the tube: vexillum ovate, sub-cordate. Texas.
emarginatum, T. & G. (♃.) glabrous: leafets 7—8 pairs, cuneiform, emarginate, dotted beneath: spikes cylindrical, on very long peduncles: bracts broadly obovate,

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Periploca. Gr. *peri*, about, and *plokē*, a binding or twining; from the branches twining about each other.

Petalostemon. Gr. *petalon*, a petal, and *stema*, stamen; from the union of those two organs in a tube.

(1) Dalea, W. (2) Dalea, Ju. (3) Kuhnistera, W. Kuhnistera, caroliniensis, Lk.

acuminate, longer than the flowers: calyx very villous, deeply 5-cleft; segments lanceolate: petals oblong, rather obtuse at the base; vexillum oblong, emarginate. Texas.

griseum, T. & G. (w-r.) grayish pubescent: stem nearly erect: leafets 5-6 pairs, lanceolate-oblong and linear-oblong, acute, mucronate, thickly and conspicuously dotted beneath: spikes cylindrical, on shortish peduncles: calyx densely silky-villous, somewhat glandular, rather shorter than the bracts; the teeth semi-ovate, shorter than the tube: petals ovate; vexillum cordate. Texas.

Petalostemon, DALEA.

5—2. PEUCED'ANUM. 60. Umb. g-r. odo. exp. r. aro.

Southern.

ternatum, N. (sulpher wort. ♃.) leaves ternate, long-petioled: leafets entire, long-linear, acute, alternated below: involucre nearly wanting; involucel very short, 5—6-leaved: fruit oblong-oval. 3 f.

verticillatum, Raf. (   ) leaves decompound, segments filiform; lower ones sub-verticillate. Louisiana.

16—10. PHA'CA. 93. Leg. f. nut. g-h. asc.

frigida, (W. y-w.   ) erect, a little glabrous, somewhat branching: leafets in 4 or 5 pairs, oblong-ovate, hairy beneath and at the margin: stipules ovate-oblong, ciliate, foliaceous, large: mouth of the calyx hairy: legumes stiped, oblong, inflated, membranaceous. Rocky Mts. N. W. Lakes.

aboriginorum, Hk. (r-w.   ) white pubescent: stem erect, sparingly ramose, striate: leafets somewhat 5-paired, lance-oblong, obtusish: stipules ovate, acute, lower ones connate, largish: legumes slender stiped, obliquely oval, acute, membranaceous, glabrous. Rocky Mts.

glabriuscula, Hk. (   ) glabrous, or sprinkled with minute scattered hairs: stem erect, sub-simple, striate: leafets in 5 or 6 pairs, lance-linear, sub-acute: stipule ovate, acute, lower ones connate, largish: legumes long stiped, lance-falcate, compressed, membranaceous, glabrous. Rocky Mts. and valleys.

elegans, Hk. (   ) sub-glabrous: stem sub-ramose, erect or ascending, angled: leafets 5—7-paired, oblong, obtuse, wedge-form at the base, glabrous above and with minute close-pressed hairs beneath: stipules ovate, acute, sub-connate at the base: racemes long-peduncled. Rocky Mts.

pauciflora, N. (   ) nearly glabrous: stem slender, even: leaves on long petioles; leafets 8—10 pairs, lanceolate-linear, acute; the rachis grooved; stipules partly united, acute: peduncles few-flowered, shorter than the leaves: legumes very small, roundish-ovate, acuminate. Rocky Mts.

parvifolia, N. (p.) small, canescent, somewhat cespitose: stem very short: leaves on long petioles: leafets 5—7 pairs, lanceolate-linear, mostly acute: the rachis flattened and slightly winged: peduncles slender, longer than the leaves: racemes short, few-flowered: calyx short, pubescent with blackish hairs: the teeth acute, a little shorter than the tube: legumes pubescent, sessile, terete and somewhat boat-shaped, acute. Rocky Mts.

bisulcata, Hk. (p.) minutely pubescent: stem stout, striate, ascending or erect: leaves nearly sessile; leafets 11—13 pairs, elliptical, somewhat petiolulate, clothed beneath with minute, appressed hairs: stipules ovate-lanceolate, acute, distinct: racemes pedunculate, spicate, closely flowered, much elongated, the flowers nodding: legumes linear, nearly cylindrical, stipitate, at length glabrous, nodding, with a deep furrow on each side of the superior suture. Oregon.

latiflora, Hk. (   ) canescently hairy: stems numerous from one root, very short, diffuse: leaves on rather long petioles; leafets 4—6 pairs, rather distant, oblong, obtuse, sessile, at length almost glabrous above; stipules ovate, acuminate: raceme capitate, 3—9-flowered, on peduncles shorter, or sometimes longer than the leaves: teeth of the calyx subulate, longer than the tube, and somewhat shorter than the petals: legumes canescent, sessile, semi-ovate, pointed. Oregon. Rocky Mts.

Peucedanum. Gr. *peuke*, fir, which its leaves resemble, and *danos*, dry or burning, from the acrid qualities of the root.

Phaca. Gr. *phakē*, lentil, which it only resembles in being leguminous.

pygmaea, N. ( ) silvery canescent, nearly stemless: leaves on rather long petioles: leafets 3—5 pairs, broadly oval or obovate, sessile: peduncles about the length of the leaves, few-flowered: calyx tubular, clothed with appressed white and black hairs intermixed, the teeth very short and acute: legumes puberulent, sessile, ovate-oblong, terete, somewhat acute pointed: seeds rugosely punctate. 2—3 i. Rocky Mountains.

mollisima, N. (M. y-w. p.) very woolly, cespitose, nearly stemless: caudex thick, branching above: leaves petiolate; leafets 4—6 pairs, acute-oblong, obtuse or acutish, sessile: stipules oblong, membranaceous, distinct: peduncles shorter than the leaves, few-flowered: calyx tubular, the subulate teeth much shorter than the tube: legumes extremely woolly, sessile, ovate, pointed, incurved. Rocky Mts.

simplicifolia, N. (y-w. p.) calyx very densely cespitose, silvery-canescent, stemless, caudex much branched above: leaves crowded in dense tufts, simple, linear or lanceolate, usually involute, acute: scapes 1—2-flowered, scarcely exserted: calyx somewhat tubular; the teeth acute, shorter than the tube: legumes glabrous, coriaceous, sessile, somewhat triquetrous, pointed, scarcely longer than the calyx. Rocky Mt.

pectinata, Hk. (w.) canescently puberulent, or nearly glabrous: stems thick, branching, ascending, striate: leaves sub-sessile, rigid; leafets 6—10 pairs, very narrowly linear, rather acute, persistent; stipules triangular-acuminate, partly united opposite the petioles: racemes about 13-flowered, longer than the leaves, on thick peduncles: flowers large, at length recurved: legumes sessile, ovoid, pointed, turgid, thick and cartilaginous, transversely rugose; the upper suture much thickened. Rocky Mts.

collina, Hk. (w. p. J. Ju.) erect or diffuse hairy: leafets 9—11 pairs, narrowly linear, obtuse, attenuate at the base into a short partial petiole; stipules very small, oblong, acuminate: peduncles twice the length of the leaves: racemes oblong, dense, with the flowers retracted: calyx tubular, densely hirsute: vexillum about the length of the wings: legumes linear, pubescent, stipitate, deflexed. Blue Mts.

podocarpa, Hk. (J. Au. w.) canescent, much branched, diffuse: stem and branches striate: leafets 6—9 pairs, broadly linear, obtuse; stipules ovate, acuminate, very small, peduncles longer than the leaves: racemes loose: legumes oblong, coriaceous, compressed, hirsute with appressed hairs, acuminate, attenuate at the base into a long stipe; the sutures much thickened; the upper one straight; the lower arcuate. Oregon. Rare.

elongata, Hk. (y-w. p.) stem erect, angled, pubescent, slightly branched: leafets 8—10 pairs, oblong-cuneiform, retuse, canescent beneath: stipules very small, acuminate from a broad base; the lowers ones united: peduncles much longer than the leaves: racemes elongated, loose: calyx silky: legumes sessile, coriaceous, cylindraceous, curved, acute. Oregon.

flexuosa, Hk. (p.) stem decumbent, flexuous, sparingly branched: leafets 6—9 pairs, linear-oblong, obtuse, glabrous above, clothed with appressed hairs beneath; stipules very small, acuminate from a broad base; the lower ones united: peduncles longer than the leaves: racemes elongated, loose: calyx somewhat silky: legumes sessile, coriaceous, cylindraceous, straight, acute. Red River, 50° north.

parviflora, N. (p.) canescently pubescent, at length nearly glabrous: stem erect: leafets 5–7 pairs, linear-oblong, obtuse, petiolulate; stipules oblong, obtuse, distinct; the upper ones almost linear: peduncles much longer than the leaves: the spike oblong: calyx hirsute with black hairs: wings about the length of the keel: legumes on a short stipe, at first hirsute. Rocky Mts.

argophylla, N. (y-w.) stemless, cespitose, densely silky-villose and silvery: leafets short, cuneate, oblong lanceolate, rather obtuse: stipules scarious, bifid and acute: flowers densely aggregated and sessile at the base of the leaves: teeth of the calyx subulate, nearly as long as the tube: legumes short and roundish, densely villose. Mountains far west.

sericea, N. (p.) dwarf, depressed, densely and canescently silky villose: caudex diffusely branched: flowering branches very short, thickly clothed with the imbricated scarious lacerated and very hairy stipules: leaves small, on rather slender petioles: leafets cuneate-oval or oblong-lanceolate: peduncles filiform, a little longer than the leaves, 2 to 6 flowered: segments of the calyx subulate, about the length of the tube: legumes small, acuminate, many-seeded, villose. High hills of the Platte.

megacarpa, N. (y-w.) almost stemless, at length nearly glabrous: leaves on long petioles; leafets 4 to 6 pairs, roundish, slightly petiolulate, rather distant and often somewhat alternate: racemes few-flowered, much shorter than the leaves: flowers very large: calyx tubular, the lanceolate-subulate teeth rather shorter than the tube: legumes very large and much inflated, ovate, acuminate, glabrous, nearly sessile. **Rocky Mts.**

neglecta, T. & G. (J. Ja. w.) nearly glabrous: stem erect, branching: leafets 5—8 pairs, elliptical, petiolulate, minutely puberulent with appressed hairs beneath: stipules triangular-ovate, minute, peduncles about the length of the leaves: racemes oblong, many-flowered, at length rather loose; the flowers reflexed: calyx tubular-campanulate, pubescent with black hairs: the subulate teeth much shorter than the tube: legume sessile, glabrous, coriaceo-membranaceous, globose-ovate, pointed, very turgid, flattened on the upper side and deeply grooved by the introflexion of the placental suture. **Western part of New York and Wisconsin.**

astragalina, Dc. (v.) minutely hairy or somewhat glabrous; stem short, ascending: leafets 8 to 10 pairs, oval, slightly petiolulate, minutely hirsute, with appressed hairs beneath: stipules ovate, foliaceous, nearly free, the lower ones scarious: peduncles at length longer than the leaves: flowers in a somewhat capitate raceme, spreading: the teeth of the calyx rather acute, almost as long as the tube: legumes pendulous, elliptical, inflated, raised on a short stipe, minutely hirsute with blackish hairs. **Arctic America.**

debilis, N. (w-p.) somewhat pubescent: stem slender, nearly simple, decumbent: leaves on rather long petioles: leafets 8 to 11 pairs, cuneate-oblong, somewhat truncate or emarginate at the apex, petiolulate, minutely hirsute with appressed hairs beneath, stipules triangular-oblong, acuminate, slightly adnate to the base of the petiole: peduncles longer than the leaves: flowers somewhat capitate: calyx pubescent with grayish hairs: the subulate teeth about the length of the tube: vexillum deeply emarginate. **Rocky Mts.**

Southern.

villosa, Mx. (1) (W. y. Ju. ♃.) nearly stemless, very villose: leafets oval, glabrous: peduncles as long as the leaves: legumes hoary, very villose, assurgent, oblong.

triphylla, Ph. (2) (W. ♃.) stemless, assurgent: leaves ternate; leafets lanceolate, sessile: scape none: legumes sessile, oblong. Leaves of silvery hue.

nuttallii, T. (Ap. y-w.) stem decumbent, low, sparingly branched, pubescent or nearly glabrous: leaves on short petioles, canescently pubescent when young; leafets approximated, 15 to 19 pairs, linear-oblong, somewhat narrowed at the base, obtuse, often emarginate, villose-tomentose, on the midrib beneath; stipules membranaceous, triangular, acuminate: peduncles longer than the leaves: raceme spicate: calyx nearly glabrous; the teeth subulate, about half the length of the tube: legume large, inflated, at first pubescent, ventricosely carinate, acuminated with a pointed style, sessile: flowers ochroleucous, the keel tipped with a pale purple spot. **California.**

canescens, N. ( ) tomentose-canescent: leafets 10 to 15 pairs, small, oval or oblong, obtuse, scarcely petiolulate: stipules membranaceous, very small, triangular, subulate: raceme many-flowered, rather loose, on peduncles twice the length of the leaves: flowers nodding: teeth of the calyx subulate, rather shorter than the tube: vexillum elongated: legumes large, inflated, obtuse, slightly puberulent, raised on a slender stipe. **California.**

densifolia, Smith. (r.) stem decumbent, branching, glabrous: leafets 14 to 16 pairs, oblong-oval, emarginate, villose-tomentose beneath: peduncles and calyx villose: raceme compact, many-flowered: legume membranaceous, ovate, very large, inflated, nearly glabrous, reticulated. **California.**

douglassii, T. & G. ( ) very slightly hairy: stem flexuous, angled and striate: leafets 10 to 13 pairs, narrowly elliptical or linear-oblong, obtuse, slightly petiolulate, beneath minutely hairy: stipules very small, triangular: peduncles about as long as the leaves: racemes few and loosely-flowered: calyx campanulate, the teeth acute and shorter than the tube: legumes sessile, ovate, pointed, membranaceous, inflated, the upper suture a little introflexed. **California.**

trichopoda, N. (y-w. Ap.) slightly pubescent: stem stout and erect, branching: leaves sub-sessile; leafets 16 to 20 pairs approximated, linear-oblong, obtuse, slightly petiolulate: stipules minute, triangular: racemes oblong, spicate, many-flowered: peduncles much longer than the leaves: calyx pubescent with blackish hairs, with very short subulate teeth, at length withering: legumes elliptical-ovoid, obtuse at each end, not flattened, glabrous, raised on a long filiform stipe. California.

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(1) **Astragalus, Mx.** (2) **caespitosa, N. Astragalus, Ph.**

5—1. PHACE'LIA. 43. Hydr. asp. ton—.

bipinnatifida, Mx. (phacelia. W. b. M.) erect: leaves pinnatifid: divisions gash-lobed: racemes mostly bifid, oblong, many-flowered: divisions of the corol entire. 1 f. *S.* P. K.
fimbriata, Mx. (W. b. M. ☉.) ascending, hairy: leaves sessile, pinnatifid; divisions lanceolate, acute, entire hispid-pilose above, glabrous beneath: racemes solitary; pedicels elongated: divisions of the corol ciliate-fringed. 1 f. S. P. K.
parviflora, P. (1) (b. M. ☉.) diffused, pubescent: leaves sub-sessile, pinnatifid: divisions oblong, entire: racemes solitary; pedicels short: divisions of the corol round, entire. 6—8 i. P. M.
integrifolia, T. (W.) erect, pubescent: leaves petioled, ovate, crenate-serrate: racemes numerous, dense-flowered.

Southern.

heterophylla, Ph. (W. b. Ju. ♂.) erect, hispid: leaves petioled, pinnatifid: divisions lanceolate, entire, nerved, terminal one elongated: floral leaves simple, lanceolate, petioled: racemes 2-cleft, dense-flowered: divisions of the corol entire.

Phaethusa, SIEGESBECKIA.

6—1. PHALAN'GIUM. 16. Asph. exp. nar—.

esculen'tum, N. (2) (W. b. M. ♃.) root bulbous: scape longer than the linear carinate leaves: spike racemed: stigma minutely 3-cleft. 12—18 i. *S.* K.

Southern.

croceum, Mx. (3) (y. ♃.) root bulbous: scape much shorter than the grass-like leaves: spike pyramidal: bracts short: seed sub-globose, smooth.

3—2. PHAL'ARIS. 10. Gram. far. nut. for birds.

americana, E. (4) (ribbon grass, wild canary grass. O. Ju. ♃.) panicle oblong, spiked: glumes of the calyx boat-shaped, serrulate: paleas unequal; rudiments hairy. Var. *picta*, leaves variously striped. This variety is the ribbon grass of the gardens. 2—5 f. S. W. P. B. F. O. N. C. Mch.
canariensis, (canary grass. O. Ju. ☉.) panicle sub-spiked, ovate: glumes boat-form, entire at the apex; rudiments smooth. Introduced. 18 i. S. edi. for canary birds.

Phalaris, AULAXANTHUS.

16—10. PHASE'OLUS. 93. Leg. r. nar. h. con. sed. ton. f. nut.

1. S. G. PHASE'OLUS, *proper*, (EU'PHASE'OLUS.)

perennis, (W. r. p. ♃.) twining, hairy: leafets ovate, acuminate, 3-nerved: racemes 1 to 3, axillary: panicles longer than the leaf: bracts small: legumes pendulous, broad, falcate, mucronate. Illinois, Georgia. M.
sinuatus, N. (♃.) nearly glabrous, prostrate: leafets reticulated, 2 to 3-lobed; the lobes obtuse: peduncles longer than the leaves, mostly solitary, simple: legumes pendulous. 4—6 f. Florida.

Phacelia. Gr. *phakelos*, bundle, in allusion to the fascicled spikes.
Phalangium. Gr. *phalagx*, Tarantula, whose bite it was supposed to cure.
Phalaris. Gr. *phalaris*, of Dioscorides, from *phalos*, shining, from its shining seeds.
Phaseolus. Lat. *phaselus*, a little ship, from the resemblance of the seed vessel to the keel of a ship.
Euphaseolus. Gr. *eu*, beautiful.

(1) Polemonium dubinum, W. (2) quamash, Ph. (3) Ornithogalum? E.
(4) arundinacea, Mx. Calamagrostis colorata, N.

Exotic.

vulgaris, (common pole-bean. b. W. Ju. ☉.) twining, somewhat glabrous: leafets ovate, acuminate: racemes peduncled, shorter than the leaves; peduncles in pairs: legumes pendulous, long-mucronate: seed ovate, sub-compound. East Indies. Cultivated; by which it often becomes a bush-bean, with variegated seeds. Var. *nanus*, (bush-bean, six-week's bean) stem erect, not twining or partly twining: bracts large: legumes compressed.

multiflorus, (scarlet runner. r. w. Ju. ☉.) twining, sub-glabrous: leafets ovate, acuminate: racemes peduncled, longer than the leaves: peduncles in pairs: bracts close-pressed, a little shorter than the calyx: legumes sub-scabrous. From South America.

lunatus, (lima bean. g-w. Ju. ☉.) twining: leaves ovate-acuminate: racemes shorter than the leaves: peduncles in pairs: legumes scymitar-form, subulate: seed compressed, purplish white.

2. S. G. STRO′PHOSTY′LES. (1)

helvolus, (W. p. Au. ♃.) stem twining: leafets oblong-deltoid, sub-pinnate: peduncles longer than the leaves, 3-flowered at the apex: banner short; wings expanded, large: legume erect. *S.* Cultivated. Seed of last 4 spec. nut.

Southern.

diversifolius, (W. p. Au. ♃.) stem prostrate, scabrous: leafets angled, 2 or 3-lobed: peduncles longer than the leaf and many-flowered: flowers in heads: legumes pubescent. Phaseolus trilobus, Mx. 2—4 f. Mch.

leiospermus, (♃.) stem slender, retrorsely hirsute: leafets linear-oblong, rather obtuse, entire, somewhat coriaceous, as long as the petioles, reticulated and hirsute on both surfaces: stipules subulate: peduncles slender, much longer than the leaves: heads few-flowered: teeth of the calyx lanceolate, as long as the tube: legume broadly linear, compressed very hirsute, about 5-seeded: seeds oval, glabrous. La. Arkansas.

3. S. G. AM′PHICARPA. (1)

monoica, Ell. (O. b. & w. Ju. ☉.) racemes pendulous, of a corol-like appearance: stem villose backwards: radical flowers without petals: leaves ternate; leafets ovate, nearly smooth: stipules ovate, striate. Var. *comosa*, (♃.) has hirsute leaves. Cultivated. Probably a distinct species. 4 f. Mch.

pitcheri, T. & G. ( ) racemes of the petaliferous flowers mostly branching: teeth of the calyx lanceolate-subulate, nearly as long as the tube: bracts very broad, silky-canescent, rather longer than the pedicels. Arkansas.

4. S. G. RHYNCHO′SIA. (1)

Southern.

reniformis, (y. ♃.) stem erect, low, hirsute: stipules lance-oblong: leaves roundish: racemes sessile, many-flowered, conglomerate: divisions of the calyx lanceolate, acuminate. Dry. Carolina.

menispermoidea, Dc. ( ) stem twining or prostrate, retrorsely pubescent: stipules ovate: leafet solitary, reniform, canescent beneath: peduncles very short, 1—3-flowered: segments of the calyx lanceolate. Texas.

latifolia, N. (y.) softly hirsute: stem angular, twining: stipules subulate-lanceolate: leaves trifoliolate: leafets somewhat rhomboidal, dilated, usually obtuse: racemes longer than the leaves, many-flowered; flowers rather distant, on very short pedicels: segments of the calyx at length oblong-lanceolate, acuminate: vexillum obovate: legume oval-oblong. 3—4 f. Arkansas, La.

caribaea, ( ) stem twining, pubescent: leafets rhomb-ovate, acute, resin-

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Strophostyles. Gr. *strophos*, twisted, and *stulos*, style.

Amphicarpa. Gr. *amphi*, around, and *karpos*, fruit; in allusion to the germ being surrounded at the base by a sheath.

Rhynchosia. Gr. *rugchos*, a beak; the germ being beaked.

(1) Glycine, L. See Glycine.

punctate beneath: racemes longer than the leaf: legumes sabre-form, hispid. West Florida. La.

5. S. G. WISTAR'IA. (1)

Southern.

frutescens, (W. b-p. ♄.) wings 2-eared: germ glabrous: stem climbing: racemes terminal. Carolina, Illinois, Florida.

6. S. G. A'PIOS. (2)

tuberosa, (ground-nut. O. b-p. Ju. ♃.) stem twining: leaves pinnate, with 7 lance-ovate leafets: racemes shorter than the leaves, axillary: root tuberous. Root very nutritious. Ought to be generally cultivated. 2—6 f. *S.* Mch.

Phellandrium, ŒNANTHE.

11—1. PHILADEL'PHUS. 89. Phil. fl. aro. ton—.

Exotic.

coronarius, (mock orange, false syringa. w. J. ♄.) styles distinct: leaves ovate, subdentate.

Southern.

inodo'rus, W. (scentless syringa. w. J. ♄.) leaves ovate, acuminate, entire: divisions of the calyx acute: style undivided, longer than the stamens: stigmas 4, oblong. Flowers large. Cultivated.

grandiflorus, W. (3) (flowery syringa. w. J. ♄.) leaves ovate, acuminate, denticulate: axils of the veins with fascicles of hairs beneath: divisions of the calyx acuminate: style undivided, longer than the stamens; stigmas 4, linear. Cultivated. S—C.

lewisii, Ph. (W. Ju. ♄.) leaves ovate, acute, sub-entire, ciliate on the margin: divisions of the calyx acute: style 3-cleft, as long as the stamens; stigmas 3.

hirsutus, N. (W. w. ♄.) leaves oblong-ovate, acute, sharply angular-denticulate, hirsute above, whitish-villose beneath: style and stigma undivided: peduncles 2-bracted near the summit.

15—5. PHILOX'ERUS. 30. Amar. r. ton.

Southern.

vermicularis, (4) (J. ♃.) glabrous: stem creeping: leaves sub-terete, fleshy: flowers in terminal, solitary, oblong heads.

3—2. PHLE'UM. 10. Gram. far. ton.

pratense, (timothy grass, herd's grass, cats-tail grass. O. J. ♃. and ♂.) spike cylindric: glumes mucronate-awned: keel ciliate: awn shorter than the glumes: culm erect. Introduced? 2—3 f. *S.*

alpinum, L. (A.) spike ovate or cylindric-ovate, hirsute or villose. Spike often blackish or dark purple.

5—1. PHLOX. 45. Pole. ton.

paniculata, (smooth-stem lichnidia. W. r. w. Ju. ♃.) glabrous, erect: leaves lanceolate, narrowing gradually, flat; margin rough: corymbs panicled: divisions of the corol rounded: calyx awned. Cultivated. 2—3 f. *S.* P. M. H. Mch.

pyramidalis, S. (5) (W. A. p. J. ♃.) erect, glabrous: stem scabrous: leaves heart-

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Wistaria. In honor of Dr. Caspar Wistar, of Philadelphia.

Apios. Gr. name for a wild pear, which the roots resemble in form.

Philadelphus. Gr. *philos*, love, and *adelphos*, a brother: because it is a pleasant companion, for its beauty and fragrance.

Philoxerus. Gr. *philos*, love, and *xeros*, dry or burnt; a plant delighting in dry, warm soil.

Phleum. Gr. *phleon*, the ancient genus, supposed to be our cat-tail grass.

Phlox. Gr. *phlox*, a flame, from the red color of the petals; probably applied first to an Agrostemma.

(1) Thyrsanthus, Glycine. (2) Glycine, L. See Glycine. (3) inodorus, Mx. (4) Illecebrum, L. (5) carolina, W. latifolia, Mx.

ovate, acute: panicle fastigiate, pyramidal: divisions of the corol wedge-truncate: teeth of the calyx sub-erect, lanceolate, acute. 2—3 f. S. P.

maculata, (spotted lichnidia. W. r. w. Ju. ♃.) erect: stem spotted, scabrous: leaves lance-oblong, glabrous; margins rough: panicle oblong: flowers crowded: divisions of the corol rounded: teeth of the calyx acute, recurved. Var. *suaveolens*, (1) stem not spotted: corol white. 2 f. S. P. Y. Mch.

aristata,* Mx. (2) (r. w. J. ♃.) weak, erect, viscid-pubescent: leaves-lance-linear: panicle lax, fastigiate: pedicels somewhat in pairs: divisions of the corol somewhat obovate; tube curved, pubescent: teeth of the calyx long, subulate. Var. *virens*, corol reddish-purple. Var. *canescens*, corol whitish rose-color. 18 i. S. D. P. Y. O. F. M. K. Mch.

pilosa, (3) (creeping lichnidia. p. w. J. ♃.) small, decumbent, pubescent: leaves lance-linear, short, roughish: corymbs sub-fastigiate: divisions of the corol round-obtuse; tube straightish, glabrous: teeth of the calyx subulate-acuminate. 12—18 i. S. Y. P. Mch.

divaricata, (W. p-b. M. ♃.) pubescent, (low, decumbent, Ph.) leaves lance-oval, upper ones alternate: branches divaricate, lax, few-flowered: divisions of the corol sub-obcordate: teeth of the calyx linear-subulate. 1—2 f. S. P. Y. F. M. O. K. Mch.

reptans, Mx. (4) (W. b-p. J. ♃.) stoloniferous creeping, pubescent: radical leaves obovate-spatulate, cauline ones lance-oval: corymb spreading, few-flowered: divisions of the corol obovate: teeth of the calyx linear, reflexed. 8—18 i. S. P. Mch.

subulata, (mountain pink. W. r. M. ♃.) cespitose, white pubescent: leaves linear, pungent, ciliate: corymbs few-flowered: pedicels 3-cleft: divisions of the corol wedge-form, emarginate: teeth of the calyx subulate, scarcely shorter than the tube of the corol. Cultivated. 3—6 i. S. Y. P. O. S—C.

setacea, (W. r. J. ♃.) cespitose, pubescent: leaves fascicled, subulate, pungent, ciliate: pedicels few, terminal, sub-umbelled: divisions of the corol wedge-form, emarginate: teeth of the calyx subulate, much shorter than the tube of the corol. S. Y. D.

cespitosa, N. (w. Ap. ♃.) diffuse, procumbent: leaves subulate, ciliate, short; margin reflexed: flowers solitary, short pedicelled: divisions of the calyx spinulose: divisions of the corol, cuneate, entire. R.

longifolia, N. (w. Ju. ♃.) sub-cespitose, many-stemmed: leaves subulate, very long and narrow, glabrous: little stems few-flowered, very short, finely pubescent, irregularly trichotomous: peduncles filiform, elongated: calyx divisions acuminate: divisions of the corol oblong-cuneate, entire. 9 i. R.

muscoides, N. (w. Ju. ♃.) dense cespitose, very small: leaves closely imbricate, lance-oblong, copiously ciliate, very short: flowers sessile, scarcely exsert: divisions of the corol cuneate, entire. R.

revoluta, Aikin (w-p. J. ♃.) glabrous: stems erect, sub-simple, slightly scabrous at the top: leaves coriaceous, paler beneath, scabrous and revolute on the margin, sub-sessile; lower ones lance-linear, acute at each end; upper ones lanceolate, rounded at the base: corymb sub-fastigiate, few-flowered: pedicels sub-scabrous: divisions of the corol obovate, slightly crenulate: calyx glabrous; divisions lanceolate, acute, unawned, half as long as the corol. 12—18 i. Damp woods. Maryland.

Southern.

undulata, W. (5) (A. b. Au. ♃.) erect, glabrous: leaves lance-oblong, sub-undulate, scabrous on the margin: corymbs panicled: divisions of the corol sub-retuse: calyx awned. 2 f.

carolina, W. (6) (p. Au. ♃.) erect: stem pubescent: leaves lance-ovate, smooth: corymb sub-fastigiate; branchlets about 3-flowered: divisions of the corol round: teeth of the calyx glabrous, lanceolate, erect.

glaberrima, (W. p. Ju. ♃.) cespitose: stem erec: leaves lance-linear, glabrous: corymbs small, terminal, sub-fastigiate: divisions of the corol roundish: teeth of the calyx lance-linear, acute. K. S—C.

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(1) suaveolens, Ph. (2) pilosa, C. (3) amoena, C. (4) stolonifera, C. and Ph. (5) paniculata, Mx. (6) trifolia, Mx?

*Dr. Aikin says, after axamining this very variable plant from Lake Ontario to Virginia, he is confirmed in the opinion, that it is synonymous with P. divaricata.

speciosa, Ph. (W. w. &. p. J. ♄.) erect, glabrous, frutescent, very branching: leaves linear; upper ones alternate, dilated at the base: racemes panicle-corymbed: divisions of the corol wedge-oblong, emarginate: teeth of the calyx subulate, equalling the tube.

ovata, W. (r-p. J. ♄.) erect, glabrous: radical leaves ovate, acute, somewhat fleshy; cauline ones lanceolate: corymbs sub-fastigiate, divisions of the corol undulate, retuse: teeth of the calyx linear, acute.

acuminata, Ph. (A. p. Au. ♃.) lower leaves spatulate-ovate, acuminate, slightly scabrous; upper ones lanceolate: corymbs terminal. 3—5 i. K.

niti'da, Ph. (1) (W. p. J. ♃.) erect, glabrous: stem scabrous: leaves ovate-oblong, sub-coriaceous: corymb fastigiate: divisions of the corol obovate, sub-retuse: teeth of the calyx lanceolate, mucronate. 18—24 i. S—C.

cordata, E. (W. Au.) leaves oblong-cordate, sub-acuminate; margin scabrous: corymbs panicled: teeth of the calyx long-awned. 1—2 f.

bifida, Bk. (W. p Ap.) stem erect, branching, minute-pubescent: leaves lance-ovate and lance-linear, somewhat clasping, opposite and alternate; margin revolute; midrib ciliate: teeth of the calyx linear, acute, pilose: divisions of the corol wedge-form, deeply cleft. 4—6 i.

14—2. Phoenicaulis. 63. Cruc. r. con. asc.

cheiranthoides, N. (p. ♃.) scape slender: leaves entire, densely and stellately tomentose: flowers in simple corymbose racemes: siliques diverging horizontally: scape 4—6 i. with a few small, sessile and partly clasping leaves. Oregon.

13—1. Phry'ma. 42. Labi. car. ton.

leptosta'chya, (lopseed. O. J. y-w. ♃.) leaves ovate, coarsely serrate, petioled: spikes terminal, slender: flowers opposite. As the fruit approaches maturity, it lops down against the rachis. Dry woods. 2—3 f. S. Mch. S—C.

3—1. Phyllac'tis. 56. Vale. r. ner+. sed+. *pal.*

Southern.

obovata, N. (2) (W. Oc.) stemless: root fusiform: leaves radiating, linear-spatulate, obtuse, hirsute-pilose.

19—15. Phyllan'thus. 96. Euph. r. ast. deob. h. diu. nar. *jan.*

obovatus, (3) (S. ☉.) leaves alternate, oval, obtuse, glabrous, somewhat distichous: flowers few, (2—4,) axillary, pedicelled, nodding: stem erect; branches distichous. 12 i. *S.* P. S—C. K.

5—1. Physalis. 38. Sola. f. & l. nar.

visco'sa,* (yellow henbane, ground cherry. O. Ju. ♃.) leaves in pairs, heart-oval, repand, obtuse, sub-tomentose: stem panicled above: fruit bearing calyx pubescent. 1—3 f. *S.*

Phoenicaulis. Gr. *phoinikos*, purple, Phoenician purple. Bad etymology.

Phryma. Gr. *phrugama*, dried; the fruit appears dry and lops down before ripening.

Phyllactis. Gr. *phullon*, leaf, and *ago*, to bring, carry, because it is stemless.

Phyllanthus. Gr. *phullon*, leaf, and *anthos*, flower; the flowers of the original species grow on the edges of the leaves.

Physalis. Gr. *phusa*, a bladder, from the inflated calyx.

(1) carolina, Wr. (2) Valeriana, Dc. (3) carolinensis, Wr.

*Dr. Aikin has very particularly compared the P. *viscosa*, *obscura*, Mx. and *pubescens*, W. and is confirmed in the opinion that they are the same species. And he is also inclined to the opinion that even *pennsylvanica* and *philadelphica*, are mere varieties of *viscosa*, and not even sufficiently characterized varieties. He says, the following description includes the whole five species, and applies to each of them in all its parts.

P. *viscosa*, pubescent: stem decumbent, herbaceous, divaricate-branched, sub-panicled above; branches sub-angular: leaves solitary or in pairs, heart-ovate, repand-toothed, generally acute, often acuminate or obtuse: flowers solitary, axillary, *obscura*, Mx. (1) (ground cherry. y. p. Ju) leaves sub-cordate, orbicular, acuminate, unequally dentate: stem herbaceous, divaricate, much branched; branches angled: inflated calyx large. Var. *glabra*, (2) summit and petioles scarcely pubescent. Var. *pubescens*, viscid-pubescent. T. Y. P. C. F. N. Mch.

pennsylva nica, (y. J. ♃.) leaves ovate, sub-repand, obtuse, nakedish: stem branching: peduncles solitary, a little longer than the petioles. 1 f. *S.* P. Y. N. C. S—C.

philadel'phica, Lk. (y. p. Ju. ☉.) leaves ovate, repand-toothed, glabrous: stem very branching: peduncles solitary, much shorter than the petioles. Probably a variety of the *obscura*. *S.* M.

lanceolata, Mx. (y. J. ♃.) leaves in pairs, lance-oval, sub entire, gradually narrowing into the petiole, pubescent: stem dichotomous: calyx villose. *S.* P. D. K.

lobata, T. (W. g.) leaves oblong, somewhat fleshy, lyrate-lobed, narrowed into the petiole at the base, glabrous, revolute at the margin: stem herbaceous, branching: peduncles solitary.

Exotic.

alkekengi, (common winter cherry. ♄.) leaves in pairs, entire, acute: stem sub-ramose below. Calyx of the fruit red, or redish.

Southern.

pubescens, W. (O. y. Ju. ☉.) leaves villose, viscous, sub-cordate: stem very branching: flowers solitary, pendulous: fruit-bearing calyx round-globose, angled. M.

somnif era. W. (y. Ju. ♃.) tomentose: leaves ovate, very entire: flowers crowded, short-pedicelled: corol bell-form.

walteri, N. (3) (♃.) pulverulent-sub-tomentose, very branching, dichotomous: leaves twinned, broad-ovate, obtuse, long-petioled, entire: peduncles solitary, nodding: calyx fructiferous, somewhat glabrous. South Carolina.

angustifolia. N. (♃.) very glabrous, prostrate, dwarfish: leaves very long, linear, fleshy, solitary: peduncles nodding, filiform, solitary. West Florida.

Phyzostegia, DRACOCEPHALUM.

10—10. PHYTOLAC'CA. 29. Phyt. eme. nar.

decandra, (pokeweed, pigeon berry. O. w. Ju. ♃.) leaves ovate, acute at both ends: flowers racemed: berries flattened at the ends. 3—6 f. *S.* Mch.

5—1. PICKERIN'GA.* 51. Eric. f. aro. asp.

Southern.

paniculata, N. (4) (♄.) evergreen: leaves entire, alternate, wedge-oblong, obtuse: flowers panicled.

5—1. PINCKNE'YA. 57. Cinc. ton. feb

Southern.

pu'bens, Mx. (p. J. ♄.) leaves opposite, lanceolate, entire, thinly pilose and shining above; tomentose below, sub-acuminate: calyx superior, persistent, colored. 15—20 f.

Phytolacca. Gr. *phuton*, plant, and *lachanon*, pot-herb; the young sprouts being one of the best substitutes for asparagus.

Pickeringa. In honor of Dr. Charles Pickering, a Curator of Acad. Nat. Sci. Phil.

Pinckneya. In honor of Gen. C. W. Pinckney, of South Carolina, a munificent patron of Science.

(1) pruinosa, E. (2) angulata, Wr. (3) lanceolata, E. (4) Cyrilla paniculata, N. in Jour. Sci. vol. 5, p. 200.

* Mr. Nuttall spells this name Pickeringia; changing the sound of the letter G unnecessarily.

pendulous: fruit bearing calyx large, inflated, angled, pubescent: berry glabrous, many-seeded. Flowers yellow, spotted at the base: leaves long-petioled, and when in pairs, one is always much larger than the other: fruit yellow when ripe, slightly acid, edible: root fusiform, white, bitter.

2—1. PINGUIC′ULA. 35. Lent. ton—.

elatior, Mx. (butterwort. W. M. ♃.) nectary subulate, obtuse, shorter than the corol; tube ventricose above: scape villose beneath. 4—12 i. *S.*

Southern.

lutea, Wr. (p. Ap. ♃.) border of the corol 5-cleft: divisions 2-lobed; lobes 2-toothed; spur subulate, a little shorter than the tube. 6—8 i. Charleston, S—C. Florida.
pumila, Mx. (b. Ap. ♃.) border of the corol 5-cleft; divisions emarginate; lobes entire; spur subulate, obtusish, as long as the tube. 3—5 i.
acutifolia, Mx. (W. Ju. ♃.) very glabrous: leaves erect, oval, very acute.
australis, N. (W. r.) glabrous: nectary very short, incurved: flowers largish. West Florida.

19—15. PI′NUS. 100. Coni. b. exp. e. hea. bal. w. tim+.

1. *Leaves solitary, with separate bases.* ABIES.

balsamea, (1) (fir tree, balsam tree. O. M. ♄.) leaves flat, emarginate or entire, glaucous beneath; sub-erect above, recurve-spreading: cones cylindric, erect: bracts abbreviated, obovate, long-mucronate, sub-serrulate. *S.* Mch.
fraseri, Ph. (double spruce. A. J. ♄.) leaves solitary, flat, emarginate, glaucous beneath, somewhat 1-sided, thick above, erect: cones ovate-oblong, erect: bracts elongated, reflexed, wedge-oblong, emarginate, short-mucronate, gash-toothed. *S.*
taxifolia, Lb. (W. ♄.) leaves solitary, flat, sub-distichous: cones oblong: anthers didymous. *S.*
canadensis, (2) (hemlock tree. O. M. ♄.) leaves flat, denticulate, 2-ranked: strobiles ovate, terminal, scarcely longer than the leaves The bark is used in tanning leather, though inferior to oak. 30—100 f. *S.* Mch.
nigra, Lb. (3) (black spruce. W. A. M. ♄.) leaves 4-sided, scattered on all sides of the branchlets, erect, straight: strobiles ovate; scales oval, with undulate margins, erose-toothed at the apex. 30—60 f. *S.* T. D. F. N. Mch.
rubra, Lb. (4) (red spruce, spruce fir. M. ♄.) leaves solitary, subulate: strobiles oblong, obtuse; scales rounded, sub-2-lobed; margin entire. Canada.
alba, Lb. (5) (white spruce. W. M. ♄.) leaves 4-sided, incurved: strobiles sub-cylindric, lax; scales obovate, entire. Mch.

2. *Leaves many, sheathed at the base.* PINUS.

(Leaves in pairs.)

resinosa, Lb- (6) (yellow pine, norway pine, red pine. M. ♄.) leaves and sheaths elongated: strobiles ovate-conic, rounded at the base, sub-solitary, about half as long as the leaves; scales dilated in the middle, unarmed. Bark of a reddish color, and much smoother than the rigida and strobus. Often grows very tall and straight *S.* T. W. N. D. Catskill. Mch.
inops, Lb. (7) (jersey pine. W. M. ♄.) leaves short: strobiles oblong-conic, recurved, of the length of the leaves; prickles of the scales subulate, straight. *S.* Y.
banksiana, Lb. (8) (scrub pine, grey pine. W. M ♄.) leaves short, rigid, divaricate, oblique: strobiles recurved, twisted; scales without prickles. Maine. D. Mch.

(Leaves in threes.)

variabilis, Lb. (9) (three-leaved yellow pine. M. ♄.) part of the leaves in pairs, the others in threes, slender, channelled: strobiles ovate-conic, sub-solitary: prickles of the scales incurved. *S.* K. S—C.
rigida, (pitch pine. O. M. ♄.) leaves with abbreviated sheaths: staminate aments

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Pinguicula. A diminitive of *pinguis*, fat, from the greasy appearance of the leaves.
Pinus. Gr. *pinax*, a wooden tablet made of pine—hence the Gr. *pitas*, pine tree, and pitch.

(1) Abies balsamifera, Mx. (2) americana, Du Roi. Abies canadensis, Mx. (3) mariana, Du Roi. Abies denticulata, Mx. (4) Abies pectinata, Lk. (5) laxa, Eh. canadensis, Du Roi. Abies alba, Mx. (6) rubra, Mx. (7) virginiana, Du Roi. (8) rupestris, Mx. hudsonia, Lk. sylvestris, A. (9) mitis, Mx.

erect-incumbent: strobiles ovate, scattered or aggregated; spines of the scales reflexed. Though very common, it grows the most plentifully on barren, sandy plains. S.

serotina, Mx, (pond pine. M. ♄.) leaves elongated: prickles of the scales straight and very slender. Probably a variety of the last. S. P. New Jersey.

(Leaves in fives.)

strobus, (white pine. O. M. ♄.) leaves slender: sheaths short: strobiles pendant, cylindric, longer than the leaves: scales somewhat lax. This is called Weymouth pine by the English. Perhaps nine-tenths of the boards used in America are of this species. S. Mch.

Leaves many, in a fascicle. LARIX.

pendula, A (black larch, tamarack, hack-matack. W. M. ♄.) leaves deciduous: strobiles oblong: margins of the scales inflexed: bracts guitar-form, with a slender point. O. D. N. Mch. M.

microcarpa, Lb. (1) (red larch, hack-matack. M. ♄.) leaves deciduous: strobiles roundish, few-flowered: scales reflexed: bracts oval, obtuse, acuminate. These two last species were considered as varieties of the same; but Mr. Lambert proved their specific difference by raising them from the seed. P. T. V. C. N. Canada.

flexilis, T. (W.) leaves in fives, short, and rather rigid: sheaths short and lacerate: strobile erect; scales large, unarmed. Branches very flexible.

Exotic.

larix, (common larch. ♄.) leaves deciduous: strobiles ovate-oblong; margins of the scales reflexed, torn: bracts guitar-form.

Southern.

pungens, Lb. (table mountain pine. A. ♄.) leaves in pairs, short, acute: strobiles ovate-conic; prickles of the scales elongated, subulate, incurved; lower ones reflexed.

taeda, Lb. (loblolly pine, old field pine. M. ♄.) leaves in threes, elongated: sheaths elongated: strobiles oblong-conic, deflexed, shorter than the leaves: spines inflexed. Var. *heterophylla*, E. (smooth-bark loblolly pine,) leaves in twos and threes: bark smooth.

palustris, Lb. (long-leaved, yellow pitch, or broom pine. M. ♄.) leaves in threes, very long: stipules pinnatifid, ramentaceous, persistent: strobiles sub-cylindric, muricate. S—C.

2—2. Pi′per. 98. Pipe. d. f. con. sti+. sto+.

Southern.

leposta′chyon, N. (florida pepper. ☉.) herbaceous, small: leaves obovate, obtuse, sub-3-nerved, pubescent: spikes axillary, filiform, erect, much longer than the leaves. 6—12 i.

3—2. Pip′tathe′rum. 10. Gram. far. ton.

racemosum, S. (2) (clustered millet-grass, black seed millet-grass. A. Au. ♃.) panicle simple: flowers racemose, lance-ovate: paleas black, hairy; awn twice as long as the glumes. N. Mch.

5—8. Pisti′a. 93. Pisti. ton.

Southern.

spathulata, Mx. (w. Ju.) leaves abruptly narrowed into the petiole, dilated, round and obtuse towards the summit. La.

Piper. A name probably of Indian origin, but very ancient.

Piptatherum. From Gr. *pipto*, to fall, and *theros*, harvest, summer.

Pistia. Gr. *pistos*, (of *pino*) to drink, in allusion to its loving water or wet places.

(1) pendula, W. laricina, Du Roi. Larix americana, Mx. who considered the pendula and microcarpa as the same species. (2) nigrum, T. Milium, S. Oryzopsis melanocarpa, M.

16—10. PI'SUM. 93. Legu. f. nut. g-f. asc.

Exotic.

sativum, (pea. p. w. J. ☉.) petioles terete: stipules round and crenate at the base: peduncles many-flowered. Var. *umbellatum*, (bouquet pea) has the stipules 4-cleft, acute. Var. *quadratum*, (quadrate pea,) fruit ash-color, 4-sided. Var. *humile*, (dwarf pea,) stem erect, not climbing: leafets roundish.

Pisum, LATHYRUS.

10—8 to 12. PITAVIA. Xanth? aro. sto.

dumosa, N. (♄.) leaves opposite or fascicled. on short branches, linear, attenuate at the base, obtuse, about an inch long, rather thick, unnerved, marked with glandular, pellucid dots, the margin with a row of glandular dots, entire: seed globose. A low branching shrub. California.

16—10. PITCHE'RIA. 93. Legu. r. exp. sug.

Southern.

galactoides, N. (W. r. ♃.) stem erect, rigid branched, smooth: leaves trifoliate, oval, obtuse, glandular-dotted beneath. Alabama, Florida.

5—2. PLANE'RA. 99. Ulmu. ton—.

Southern.

aquatica, Wr. (1) (W. M. ♄.) leaves ovate, acute, serrate, equal at the base, slightly scabrous, short petioled. 25—30 f.

4—1. PLANTA'GO. 31. Plan. l. emo. s. muc.

major (plantain. O. w. J. ♃.) leaves ovate, sub-dentate, sub-glabrous: scape terete: spike oblong, imbricate. Mch.

lanceolata, (rib-wort, snake plantain, ripple grass. W. J. ♃.) leaves lanceolate, villose: spikes short, terete-cylindric: bracts ovate, acuminate: scape angled, with close-pressed hairs. 1—2 f. S. T. B. C. F. O. N. V. Mch.

virginica, (dwarf plantain. W. r-y. J. ♂.) whitish pubescence on all parts: leaves lance-ovate, sub-denticulate: flowers remotish: scape angled, (or a little striate?) The corol adheres to the germ so closely that at first it appears to be superior. 3—8 i. S. C. Y. P. M.

cordata, Lk. (2) (w. J. ♃.) leaves heart-ovate, broad, sub-dentate, glabrous: spike very long: flowers sub-imbricate, lower ones scattered: bracts ovate, obtuse. 12—18 i. S. P. Y. C. T. D. Mch

media, (w. J. ♃.) leaves lance-ovate, pubescent: spike cylindric: scape terete. In one variety the leaves are hirsute and the spikes branching. T.

maritima, (3) (sea plantain. L. Au. ♃.) leaves linear, grooved, fleshy, hairy near the base: scape terete: spike cylindrical: bracts rather acute. 6—10 i. S. Y. B. C. F.

pusilla, N. (4) (Au. ☉.) minutely pubescent: leaves linear-subulate, flat, entire, acute: scape terete, longer than the leaves: spike cylindrical, loose: lower flowers distant: bracts ovate, acute, as long as the calyx. New Orleans.

cucullata, Lk. (5) (Jn. ♃.) leaves ovate, concave-cowled, 9-nerved, pubescent beneath: spike cylindric, imbricate; scape tall, terete. Maine.

eriopoda, T. (W. ♃.) stemless: petioles covered with very long wool at the base: leaves broad-lanceolate, attenuate at each end, long-petioled, glabrous, entire,

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Pisum. Gr. *pison*, a pea. The Celtic word *pis*, denotes also a pea.

Pitavia. Unknown.

Pitcheria. In honor of Dr. Zina Pitcher, of the U. S. Army, an excellent naturalist and amiable man.

Planera. In honor of James Planer, Professor of Botany at Erfurt.

Plantago. Lat. *planta*, the sole of the foot, from its supposed resemblance.

(1) ulmifolia, Mx. (2) kentuckiensis, Mx. (3) pauciflora, Ph. (4) hybrida, D. linearifolia, M.? aristata, Mx. elongata, Ph (5) maxima, Jn.

5-nerved: scape terete, very glabrous: spike cylindric, exceeding the leaves: flowers remote: stamens and styles very long: bracts broad-ovate, obtusish: capsules 2-seeded. 9—12 i.

Southern.

caroliniana, Wr. (Ju. ♂.) all over glabrous: leaves lanceolate, very entire, long: flowers remote: stem terete. Elliott unites this species with the next.

interrupta, Lk. (Ju. ♃.) leaves lanceolate, (lance-ovate, Ph.) entire, somewhat pilose: spikes slender, long, interrupted: flowers glabrous. Sometimes nearly glabrous, Elliott.

glabra, N. (W.) leaves ovate, denticulate, smooth: scape slender, sub-compressed, nearly equal to the leaves: flowers scattered: bracts ovate, acuminate.

gnaphaloides N. (1) (W. Ju. ☉.) silky-villose: leaves lance-linear, very entire, nakedish above: scape terete, scarcely longer than the leaves: spike cylindric, imbricate: bracts linear, with long, villose ciliae.

18—1. PLATAN'THERA. 21. Orch. r. amy. nut. emo.

orbiculata, Lind. (W.g-w. J. ♃.) lip linear, entire, obtusish; 3 upper petals converging, with the uppermost one deltoid, obtuse, and the 2 lateral ones spreading, oblique at the base; spur longer than the germ, clavate, flattish, curved. leaves 2, radical, orbicular, prostrate, glabrous, very shining. 12—18 i. S. C. O. F. B. N. *Habenaria orbiculata*, 7th edition. Mch.

dilatata, Lind. (giant orchis. O. w. or g. J. ♃.) spur shorter than the germ: lip entire, linear, with the base dilated, of the length of the spur: bracts of the length of the flower: stem leafy. In the mountain woods, the flowers are green; in the open meadows white. 1—4 f. S. *Habenaria dilatata*, 7th edition. Mch.

19—12. PLAT'ANUS. 99. Plat. aro. ton.

occidentalis, (button wood, american plane-tree, false sycamore. O. J. ♄.) leaves quinquangular, obsoletely lobed, toothed, pubescent beneath: stem and branches becoming white. Grows to a greater size than any other tree in America. Mch.

12—12. PLATYS'TEMON. 62. Papa. nar—. ano. sed.

californicum, Benth. (☉. y-w.) plant sparsely covered with shaggy, spreading hairs: leaves half-clasping, oblong, linear, obtuse, entire, alternate, often crowded so as to appear opposite, or whorled at the origin of the branches and peduncles, 3—5-nerved: peduncles axillary, elongated, 1-flowered. California.

12—2 to 5. PLATYTIG'MA. 62. Papa. nar—. ano. sed.

lineare, Benth. (y. ☉.) cespitose: stem abbreviated, or almost none: leaves mostly radical, crowded, linear, entire, glabrous, or slightly hairy: peduncles radical or nearly so, numerous, slender, 1-flowered, clothed with spreading hairs. California.

14—1. PLATYSPET'ALUM. 63. Cruc. h. & f. con. sal.

purpurascens, Br. (   ) stigma 2-lobed, spreading; style manifest: scape naked, 1-leaved, and pubescent: silicles sub-glabrous. A.

dubium, Br. (   ) stigma undivided, sub-sessile: silicles and scapes pubescent. A.

14—1. PLATYPER'MUM. 63. Cruc. h. & f. con. sal.

scapigerum, H. (w. Mar. Ap. ☉.) root sub-fusiform, scarcely fibrous: leaves all radi-

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Platanthera. Gr. *platūs*, broad, *anthos*, flower, or anther.

Platanus. Gr. *platanos*, from Gr. *platūs*, broad; regarding the wide-spread foliage.

Platystemon. Gr. *platūs* broad, *stemon*, strand or filament.

Platystigma. Gr. *platūs*, broad, *stigma*, point; top of the style.

Platypetalum. Gr. *platūs*, broad, *petalon*, leaf or plate; on account of the broad petals.

Platyspermum. Gr. *platūs*, broad, *sperma*, seed; on account of the broad margins of the seeds.

(1) lagopus, Ph.

cal, spreading, sub-runcinate-pinnatifid; lobes mostly acute; lower ones gradually smaller, attenuated into a petiole, somewhat fleshy, glabrous: scapes many from the same root, digitate, erect, simple, very glabrous, always 1-flowered: flowers small, erect. R.

3—1. Plectri'tis. 56. Vale. r. ner+. sed+.

congesta, Dc. (r. ☉.) glabrous: flowers in a dense whorl, bracts many-cleft, in subulate divisions. Var. *minor*, leaves very narrow. R.

9—2. Plee'a. 13. Junc. fod.

Southern.

tenuifolia, Mx. (y.r. ♃.) very glabrous: leaves very narrow-ensiform: sheaths of the spike 1-flowered. 1—2 f.

3—2. Pleura'phis. 10. Gram. far. ton.

Southern.

jamesii, T. (W. Ju. ♃.) culm terete, smooth, slender: spike terminal, erect; spikelets sessile, in an ovate congeries at each joint of the rachis: involucre white-woolly, one-third the length of the flowers. Discovered on the river Canadian, by Dr. Edwin James. 1 f.

3—2. Po'a. 10. Gram. far. ton.

Remarks. The word *poa*, is pure Greek, and signifies pasture or fodder. Linneus applied the name to this genus, because it includes the most common *pasture grass* and *meadow grass*. The Poa pratensis, aided by the Agrostis vulgaris, constitutes most of those beautiful carpets which cover our fields, lawns, and road-sides.

annua, (W. Ap. ☉.) panicle sub secund, divaricate: spikelets ovate-oblong, 5-flowered; florets free: culm oblique, compressed: root fibrous. 6—8 i. S. B. N. P. C. T. Mch.

fasciculata, T. (L. Au. ♃.) panicle spreading: branches straight, fascicled, crowded; spikelets oblong, 3-flowered: florets free: glumes minute, unequal: culm oblique-terete: root fascicled. 1—2 f.

dentata, T. (♃.) panicle loose, somewhat spreading: branches capillary, virgate: spikelets lanceolate, 5-flowered; florets free. glumes unequal; lower glume obtuse, 3-nerved: lower palea 5 nerved, 5-toothed at the apex when old. 3 f. N.

aquatica, Var. *americana*, T. (1) (Au. ♃.) panicle erect, half-whorled, diffuse: branches flexuous, smooth; spikelets linear, 6—8 flowered: florets ovate, obtuse, free: leaves broad-linear, with the sheaths smooth. 4—5 f. P. N. B. Canada. Mch.

maritima, Huds. (J. ♃.) panicle branched, somewhat crowded; spikelets about 5-flowered, terete; florets rather obtuse, indistinctly 5-nerved: root creeping. 1 f. B. N.

brevifolia, M. (2) (A. P. ♃.) panicle loose; branches in pairs, horizontal: glumes 3—4-flowered: paleas pubescent: leaves very short: stipule acuminate. 2 f. P. Y. W.

pungens, T. (3) (W. Ap. ♃.) culm compressed: leaves very short, cuspidate: panicle sub-simple, spreading; spikelets ovate, 3—4-flowered; florets webbed, obtusish, obscurely 5-nerved. 18 i. S. P. K.

pratensis, (english grass, meadow grass, spear grass. O. J. ♃.) panicle diffuse: upper leaves much shorter than the smooth sheaths: florets acute, 5-nerved, webbed at the base: stipule short, truncate: root creeping. 2—3 f. S. Mch.

Plectritis. Gr. *plēktron*, a spur, from the form of the corol.

Pleea. Gr. *pleiōn*, abundance; from the superabundance of stamens.

Pleuraphis. From Gr. *pleura*, the rib, *aphe*, the touch, or junction.

Poa. Gr. *poa*, the name for grass.

(1) aquatica, Ph. (2) alpina, Ph. (3) autumnalis, E. flexuosa, M. cuspidata, B.

trivialis, (1) (pasture grass. W. Ju.) panicle equal, diffuse; spikelets oblong-ovate, about 3-flowered; florets webbed at the base, 5-nerved: culm and sheath roughish: stipule oblong; root creeping. 2—3 f. P. Y. C. M. N. Mch.

compressa. (blue grass. W. Ju. ♃.) panicle contracted, somewhat 1-sided; spikelets oblong, 3—6-flowered: florets webbed: glumes sub-equal: culm oblique, compressed: root creeping. Var. *sylvestris*, T. panicle loose spreading; spikelets 2—3-flowered: culm slender, nearly erect. 12—18 i. S. B. P. C. N. O. Mch.

serotina, Eh. (2) (W. J. ♃.) panicle elongated, diffuse, at length somewhat 1-sided; spikelets lance-ovate, 2—3-flowered; florets a little webbed at the base, yellow at the tip, obscurely 5-nerved: root creeping. 2—3 f. W. Y.

nemoralis, (♃.) panicle attenuated, weak; branches flexuous; spikelets ovate, about 3-flowered; florets loose, slightly webbed, acute, obsoletely nerved: stipule almost wanting. 2 f. P. C. N. Mch.

nervata, W. (3) (W. J. ♃.) panicle equal, diffuse; branches weak, and at length pendulous; spikelets 5-flowered; florets free, conspicuously 7-nerved, obtuse. 3—4 f. B. P. C. O. M. N. Mch.

elongata, T. (♃.) panicle elongated, racemose; branches solitary, appressed; spikelets ovate, obtuse, tumid, 3-flowered; florets free: stipule almost wanting. 3 f. N.

obtusa, M. (W. Au. ♃.) panicle ovate, contracted; spikelets ovate, tumid, 5 to 7-flowered; florets free: glumes scarious: paleas ovate, smooth, obtuse; lower valve indistinctly 7-nerved: leaves as long as the culm, and with the sheaths smooth. 2—3 f. P. Y. B.

canadensis, Mx. (4) (meadow rattlesnake grass. O. Ju. ♃.) panicle large-effuse; branches half-whorled, flexuous, at length pendulous; spikelets ovate, tumid, 6 to 8-flowered: florets free: lower valve acutish, 7-nerved; upper valve very obtuse; stamens 2. 3—4 f.

capillaris. (W. Au. ☉.) panicle very large, loose, spreading, capillary; spikelets 3-flowered, ovate, acute; florets free: culm branched at the base: leaves hairy. 12 i. S. P. Y. B. C. M. N. Canada. Mch.

hirsuta, Mx. (Ju. ♃.) culm erect, compressed, simple; sheaths hairy: panicle very large, capillary; branches spreading, at length reflected, bearded in the axils; spikelets oblong, about 5-flowered: paleas ciliate on the margin. Var. *spectabilis*, (5) spikelets linear, 10 to 15-flowered. 18 i. S. P. Y. B. C. N. Mch.

pectinacea, Mx. (6) (W. Ju. ☉.) culm cespitose, oblique: leaves hairy at the base: panicle capillary, expanding, pyramidal, hairy in the axils; spikelets linear, 5 to 9-flowered: florets free, acute: upper palea persistent. 8—12 i. S. Y. V. P. C. N. K. M. Mch.

reptans, Mx. (O. Au. ☉?) dioecious: culm branched, creeping: panicle fascicled; spikelets lance-linear, 12 to 20-flowered: florets acuminate. Var. *caespitosa*, T. culm very short, cespitose: spikelets much crowded, oblong. 8 i. S. M. Mch.

eragrostis. (7) (W. Ju. ☉.) panicle equal, spreading; lower branches hairy in the axils; spikelets lance-linear, 9 to 15-flowered; florets obtuse: root fibrous. 12—18 i. S. B. C. M. N.

Southern.

tenuis, E. (Au. ♃?) panicle branching, spreading, capillary: spikes 3-flowered, glabrous, long-peduncled: leaves linear, very long. 12—18 i. S—C.

parviflora, Ph. (W. J. ♃.) panicle diffuse, capillary; spikelets small, about 3-flowered; flowers obtusish, striate, caducous: leaves distichous, flat. Probably a variety of the nervata, T. 12—18 i. P. Y. K. S—C.

conferta, E. (   ) panicles terminal and axillary, erect, compressed, with clustered flowers; spikelets 8-flowered, glabrous. 2—3 f. S—C.

angustifolia, E. (M. ♃.) leaves linear, involute: panicle somewhat crowded; spikes lanceolate, acute, 4-flowered: flowers villose at the base. 1—2 f. S—C.

nitida, E. (Ju. ♃?) stem erect, very glabrous: panicle large, diffuse, capillary, subverticillate: peduncles long: spikelets lanceolate, 8-flowered. 1 f.

rigida, E. (hard meadow grass. M.) panicle lanceolate, a little branched, one-sided; branches alternate, one-sided. 2—4 i. K.

airoidea, N. (W.) panicle attenuated, erect; branches capillary, loose, half whorled:

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(1) stolonifera, M. (2) palustris, M. crocata, Mx. (3) Briza canadensis, N. (4) Briza, Mx. (5) refracta, M. spectabilis, Ph. (6) tenella, Ph. pilosa, M. (7) obtusa, N. Briza, M.

leaves with very long sheaths, short and acute: spikelets oblong, obtuse, sub-sessile, 4 to 6-flowered: glumes unequal, shorter than the palea. 4—5 f.

Poa, GLYCERIA, WINDSORIA.

Podalyria, BAPTISIA.

12—1. PODOPHYL'LUM. 62. Podo. r. cat+. h. nar.

peltatum, (wild mandrake, may-apple. O. w. M. ♃.) stem terminated with 2 peltate palmate leaves: flower single, inserted in the fork, formed by the petioles of the leaves. Sometimes the plant is 3-leaved, and sometimes the flower is inserted on the side of one of the petioles. 1—2 f. *S.* Mch.

19—2. PODOSTE'MUM. 7. Fluv. ton—.

ceratophyllum, (thread-foot. W. Ju. ♃.) stem filiform, floating: leaves pinnate: flowers axillary. Attached to rocks and large stones in shallow waters. N. P.

Southern.

abrotanoides, N. (   ) frond very branching; divisions next to the terminal ones capillary, dichotomous, many-cleft: floral spathe elongated. Destitute of roots as distinct from the stem.

18—5. PODOSTIG'MA. 47. Apoc. exp. dia. ton. *cat. pneu.*

Southern.

pubescens, E. (1) (y-g. M. ♃.) stem erect: leaves linear: umbels terminal and axillary: petals erect, longer than the calyx: corpuscle pedicelled. 12—18 i.
viridis, Wr. (2) (g. & p. M. ♃.) stem erect: leaves petioled, oblong, obtuse, smooth: umbels few, terminal: petals erect, much longer than the calyx; nectaries entire, spreading, short.

18—1. POGO'NIA. (3) 21. Orch. gr. vis-past.

ophioglossoides, (snake mouth arethusa. O. r. Ju. ♃.) root fibrous: scape with two distant leaves, 1 or 2-flowered: leaves lance-oval: lip fringed. 8—12 i. *S.* Mch.
verticillata, (W. y-r. J. ♃.) leaves 5, in whorls, lance-oblong: stem generally 1-flowered: three outer petals long-linear, inner ones lanceolate; lip 3-lobed; middle division undulated. Var. *medeoloides*, (4) inner petals short, obtuse: leaves more acuminate. 6—12 i. *S.* P. N. C. D. Mch.

Southern.

divaricata, (p. J. ♃.) root fibrous: scape 1-flowered, with two distant, lance-oblong leaves: outer petals long-linear, expanding; lip sub-3-lobed, crenulate. 18—24 i.

12—1 POLANISIA. 64. Capp. eme. poi. sti. ver.

graveolens, Raf. (false-mustard. O. r. w. Ju. ☉.) viscid-pubescent: leaves ternate; leafets elliptical-oblong: flowers generally dodecandrous. 1 f. S. *Cleome dodecandria*, 7th edition.

Podophyllum. Gr. *pous*, foot, and *phŭllon*, leaf, the leaves resembling the webbed feet of aquatic birds; or in allusion to the long, firm stalk on which the leaves are placed.
Podostemum. Gr. *pous*, foot, and *stemon*, stamen, from the stamens being situated on a base or foot.
Podostigma. Gr. *pous*, foot, and *stigma*, stigma, from its shape.
Pogonia. Gr. *pogōn*, a beard, from the bearded lip of the nectary.
Polanisia. Unknown.

(1) Asclepias pedicellata, Wr. Stylandra pumila, N. (2) Asclepias, Wr. Anantherix, N. (3) Arethusa, L. (4) Arethusa, Ph.

Southern.

tenuifolia, T. & G. (   ) viscid-glandular: leaves 3-foliate, nearly glabrous; leafets filiform-linear, longer than the petiole: petals very unequal, sub-orbicular, entire, on short claws: stamens 9—11: style longer than the ovary: pods linear, terete, minutely reticulated, glabrous. Georgia.

5—1. Polemo'nium. 45.

reptans, (greek valerian. W. b. M. ♃.) leaves pinnate, (leafets 5—13:) flowers terminal, nodding. P. K.

6—1. Polyan'thes. 14. Lili. diu—. emo.

Exotic.

tuberosa, (tuberose. ♃.) flowers alternate, in pairs: rootlets tuberous: scape scaly: leaves linear, long. Sweet scented.

3—3. Polycar'pon. 30. Ille. ast.

Southern.

tetraphyllum, (w. J. ☉?) stem branching, glabrous, striate, knotted: leaves opposite and in fours, obovate, obtuse, entire, glabrous, narrowed at the base. 3—6 i. Charleston, S—C.

depressum, N. (   ) very small, depressed, much branched: leaves opposite, spatulate, the petiole as long as the limb: flowers in clustered cymes: sepals not mucronate: petals almost filiform: stamens 3—5. California.

Polycarpon, Stipulicida.

3—1. Polycne'mum. 29. Chen. nut. lax.

Southern.

americanum, N. (W. ♃.) cespitose: leaves connate, crowded, subulate, 3-angled, rather pungent: flowers terminal, triandrous?

16—6. Polyg'ala. 93. Leg. r. acr. sud. exp. *ast. rheu.*

incarnata, W. (milkwort. W. r. J. ☉.) stem somewhat simple, erect: leaves scattered, subulate: spikes oval-oblong: corol with a slender elongated tube: flowers crested. S. Y. R. D. Florida, S—C.

polyga'ma, Wr. (1) (ground-flower. bitter polygala. W. r. J. ♃.) stem sub-simple, (often several from the same root,) erectish: leaves oblanceolate or linear, mucronate: terminal racemes with perfect flowers: radical ones apetalous, prostrate, (running under ground when in loose sandy soil:) bracts small, subulate, caducous: calycine wings roundish, longer than the capsule. 6—12 i. P. Y. C. D. Peekskill. Mch. S—C.

paucifolia, (2) W. (flowering wintergreen. W. r. M. ♃.) small, large-flowered: stem simple, erect, naked below: leaves ovate, acute, glabrous, near the top of the stem: flowers crested, terminal, about in threes; radical ones apterous, often subterraneous. Var. *pubescens*, leaves pubescent on the margin and midrib. Var. *alba*, flowers solitary or few, smaller, white, stem somewhat leafy at the base. 3—4 i. S. T. B. C. O. N. V. Mch.

Polemonium. Gr. *polemos*, war, because two kings are said to have contended for the honor of having discovered its virtues.

Polyanthes. Gr. *polūs*, many, and *anthos*, flower, because it has many flowers.

Polycarpon. Gr. *palūs*, many, and *karpos*, seed, or fruit.

Polycnemum. Gr. *polūs*, many, *knēme*, a leg or knee, from the number of jointed branches, or joints of the stem.

Polygala. Gr. *polūs*, many, and *gala*, milk, from its milky juice.
(1) rubella, W. vulgaris, W.? (2) Chamæbuxus Section; probably a natural genus.

sen'ega, W. (seneca snake root, mountain flax. W. r. or w. J. ♃.) stem erect, simple, leafy: leaves alternate, lanceolate: spike terminal, filiform: flowers alternate, not crested. Var. *albida*, leaves lanceolate or oval: spike somewhat crowded; flowers white, sub-sessile. 8—14 i. S. O. T. Y. P. D. Peesksill. Mch.

lutea, W. (yellow milkwort. W. y. Ju. ⊙. or ♂.) stem simple or branching: radical and lower cauline leaves spatulate, the others lanceolate: spike head cylindric, crowded, peduncled. Var. *elatior*. Ph. stem sub-virgate, taller. 4—16 i. S. Y.

sanguin'ea, (W. r. Ju. ⊙.) stem erect, corymb-branched at the top: leaves alternate, linear: flowers not crested, in a head-form spike: peduncles squarrose: calycine wings obovate about as long as the capsule. Damp. 7—16 i. S. B. F. N. C.

purpurea, N. (Ju. r. ⊙.) stem fastigiate-branched: leaves alternate, oblong linear; flowers beardless: spikes cylindric, obtuse, imbricated on a squarrose rachis: calycine wings cordate-ovate, twice as long as the capsule. P. C. H. Mch.

verticillata, (dwarf snake-root. O. w. J. ⊙.) stem erect, branching: leaves whorled and scattered: spike filiform, peduncled: flowers distinctly alternate, approximate, crested: calycine wings shorter than the fruit. 6—8 i. S. Mch.

ambigua, N. (W. p. ⊙.) first leaves whorled the others alternate: stem with wand-like branches: spikes acute, long peduncled: flowers crested: calycine wings round and veined, equal and close pressed to the fruit: bracts caducous. Y. F. K.

cruciata, (r. g. Ju. ⊙.) stem erect, ramose, wing-angled: leaves in fours, lance-linear: flowers in spiked sessile heads. 8—12 i. S. P. C. N. B. Mch. K.

corymbo'sa, Mx. (1) (g-y. Ju. ♃.) stem erect, terete, nearly naked: lower leaves long, lance-linear; cauline ones subulate, minute near the summit: racemes corymbed: rachis squarrose. 2—4 f. S.

nutkana, Moc. (   ) racemes loose, 4—5-flowered: wings orbicular: capsule emarginate: stem somewhat shrubby at the base: leaves oval, petioled, acuminate at each end. N. W. America.

Southern.

setacea, Mx. (W. Ju. ⊙.) stem simple, setaceous, nearly leafless, sparingly branched near the summit: leaves small, setaceous, scattered: flowers minute, in a compact spike.

viridescens, W. (2) (g-y. Ju.) stem simple: leaves wedge-obovate, obtuse: head cylindric, squarrose: calycine wings distinctly acuminate. 1—4 i.

balduin'a, N. (y-w. Ju.) stem erect, branching near the summit: lower leaves spatulate-obtuse; cauline ones lanceolate: heads squarrose, corymbed: calycine wings setaceous-acuminate. 2—3 f.

alba, N. (W. w. ♃.) stem simple: leaves alternate, linear, revolute at the margin: spike racemed, long-peduncled: corol bearded: bracts caducous: calycine wings roundish. 6 i.

boykinia, N. (g-w.   ) flowers crested: stem simple: leaves 4—5, verticillate, oblong-oval, lanceolate or acute; upper ones scattered: spike solitary, long peduncled, lax flowered. Georgia. Florida.

acutifolia, T. & G. (M. O.) cyme compound: spikes ovate, rather loose: wings oblong, rather obtuse, mucronate: exterior sepals ovate-triangular, acute; crest conspicuous: seed sub-globose, glabrous, without a caruncle: stem simple, attenuated upward: radical leaves lanceolate-linear, very acute; cauline ones linear, subulate. Florida.

cymosa, Wr. (J. Au. y.) cyme simple: spikelets ovate: wings elliptical-oblong, rather obtuse, mucronate; superior sepal half as large as the wings, rather obtuse: lateral petals distinct nearly to the base; crest minute: seed sub-globose, glabrous, without a caruncle: stem simple, terete, attenuated upward: radical leaves linear-spatulate; cauline ones linear-subulate, minute. 2—5 f. North Carolina to Florida.

bicolor, Kunth. (   ) spikes cylindrical, densely flowered: exterior sepals with two thick parallel nerves: leaves pellucid-punctate; the lower ones ternately or quinately verticillate; upper ones linear-lanceolate. La.

leptocaulis, T. & G. (⊙.) spike racemose, much elongated, very slender, loose: wings elliptical-obovate, about as long as the corol; exterior sepals somewhat equal, acute; crest conspicuous: capsule oblong: seed oblong: lobes of the caruncle very minute: stem filiform, nearly simple, or with a few long, erect branches: leaves linear, very narrow. 1—2 f. Texas.

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(1) attenuata, N. cymosa, Wr.   (2) lutea, var. nana, Mk.

beyrichii, T. & G. (w. ♃.) spike dense, acute: flowers on very short pedicels; wings orbicular-obovate, concave, rather longer than the broadly obovate, lateral petals: capsule oblong: seed very villous with appressed hairs: lobes of the caruncle distant, about half as long as the seed: stems numerous, somewhat branched: leaves linear or linear-spatulate. 1 f. Texas.

chapmanii. T. & G. (☉. r.) spike oblong, acute, loose: wings obovate, with a short claw; exterior sepals unequal; the posterior one broadly ovate, obtuse: lateral petals obovate, distinct from the keel: crest almost none: seed obovate, clothed with spreading hairs: lobes of the caruncle minute, diverging: stems filiform, somewhat branching: leaves linear-subulate, numerous. 1 f. Florida.

grandiflora, Wr. (M. Au. ♃ r.) pubescent: raceme elongated, the flowers distant: pedicels recurved after flowering: wings roundish, covering the corol and fruit; keel large, cucullate, connected with lateral petals and filaments only at the base: stem ascending: leaves ovate-lanceolate, ciliolate. 1 f. S—C. to Florida and La.

attenuata, Hk. (☉. g.) racemes loose, attenuated at the apex; pedicels as long as the flowers: wings ovate, acute, concave, scarcely longer than the bearded keel: stem slender, elongated, angular, branched: leaves linear, opposite, rarely quaternate; upper ones alternate. La.

Polygonatum, CONVALLARIA.

8—3. POL'YGO'NUM. 28. Poly. epis. acr. s. nut. amy.

1. *Flowers axillary.*

aviculare, (knot-grass. O. w. M. ♃.) stamens 8, styles 3: leaves lanceolate, scabrous at the margin: stipules short, lacerate: stem-procumbent: flowers sub-sessile, axillary, minute. 6—12 i. S. Mch.

erectum, (1) (O. w. J. ♃.) stem erect, branched: leaves oval, acutish: stamens mostly five. 1—3 f. S. Mch.

maritimum, W. (2) (L. w-r. Au. ♄.) stamens 8: leaves lanceolate, thick and glaucous, revolute on the margin: stipules lacerate: stem diffuse, prostrate, suffruticose. 1—2 f. S. Y. C.

tenue, Mx. (3) (slender knot-grass. O. w. Ju. ☉.) leaves long-linear, straight, acuminate: stipules tubular, apex villose: stem slender, erect, branched, acute-angled: flowers alternate, sub-solitary. 9—18 i. S. Mch.

2. *Flowers in slender spikes.*

lapathifolium, (4) (W. r-w. Au. ☉.) stamens 6: styles 2: stipules awnless: peduncles scabrous: nuts concave on all sides: spikes rather crowded: leaves lance-ovate, short-petioled, pubescent above. 2—4 f. S. P. Mch.

punctatum, E. (5.) (water pepper, biting knotweed. O. w. Au. ☉.) stamens 8: styles 3: leaves lanceolate, glabrous: stipules lax, glabrous, ciliate at the apex, spotted: spike filiform, weak, somewhat nodding: bracts remotely alternate. 1—2 f. S. Mch.

mite, P. (6) (tasteless knotweed. W. J. ☉.) stamens 8: styles 3: leaves narrow, lanceolate, sub-hirsute: stipules hirsute, long-ciliate: spikes linear: bracts ciliate, sub-imbricate. 12—18 i. S. T. Y. P. B. C. N. Mch.

virginianum, (W. w. Ju. ♃.) stamens 5: styles 2, unequal: leaves broad-oval: spikes wand like: flowers remote. 2—4 f. S. P. Y. C. V. T. N. Mch.

bistortoides, Ph. (w-r. J. ♃.) stem simple, 1-spiked: leaves oval, flat, petioled: bracts 1-flowered, 2—3-valved. C.

3. *Flowers in thick crowded spikes.*

viviparum, (A. r. Au. ♃.) stem simple: leaves lance-linear, glabrous; margin revolute: spike single, linear: bracts ovate, acuminate. 6 i. S. Whitehills.

Polygonum. Gr. *polūs*, many, and *gonē*, corner, in allusion to the 3-cornered seed, or from the knee-jointed stem.

(1) aviculare, var. latifolium, Ph. (2) marinum, Ph. glaucum. N. (3) linifolium, M. barbatum, Wr. (4) incarnatum, E. (5) hydropiper, Mx. hydropiperoides, Ph. (6) hydropiperoides, Mx.

barbatum, W. (W. r-w. Ju.) stamens 6: styles 3: spike wand-like, truncate; bristle ciliate: leaves oblong, acute, smoothish. 18—24 i.

persicaria, (ladies' thumb, heart-spot knotweed, heart's ease. O. r. Ju. ☉.) stamens 6: styles 2: spikes ovate-oblong, erect: peduncles smooth: leaves lanceolate: stipules smoothish, ciliate. 1—2 f. M.

pennsylvanicum, (knee knotweed. O. Ju. ☉.) stamens 8: styles 2 or 1: spikes oblong: peduncles hispid: leaves lanceolate: stipules glabrous, not ciliate: stem with swelling knee-joints. 2—4 f. S. Mch.

amphib'ium, L. (1) (mud knotweed. O. r. Au. ♃.) stamens 5: styles 2, half-united: upper leaves sub-sessile, and tapering to the base: middle ones short petioled and abrupt at the base, lance-oblong and ovate-oblong, gradually tapering to a long-acuminate apex, rough at the edge: spike cylindrical: stem thick, erect, sub-decumbent at the base. Flowers large, red, in a thick spike 2 to 3 inches long. In mud and moist ground. Mch.

coccineum, W. (2) (creeping knotweed, lake knotweed. W. r. Au. ♃.) stamens 5: styles 2, half-united: leaves long-petioled, oblong, abrupt and sub-cordate at the base, acute at the apex, glabrous and lucid: spike cylindrical: stem thick and strong, decumbent and rooting. Flowers red, in spikes not so long or thick as the last. Stem creeps along the muddy banks of an island in the Hudson, above Troy, from 6 to 12 f. B. C. O. D.

fluitans, Ea. (3) (swimming knotweed. r. Au. ♃.) stamens 5: styles 2, half-united: leaves long-petioled, oblong-oval, tapering to the base, obtuse and acute at the apex, glabrous and lucid: stem filiform, wiry, floating, sometimes rooting: spike cylindric. Flowers red, in spikes less than half as long as the last, and not a fourth as large as the preceding. Stem 10 to 15 feet long, often dark-brown and sending off rootlets in clear water. Grows in Whiting's Pond, Columbia county, and in Botany Pond, three miles east of Albany. I have watched this and the two preceding species several years, and am satisfied that they are distinct. Finding this to be a new one, not var. *natans*, of Mx. I give it a new name.

4. *Flowers in spiked-panicled racemes.*

articulatum, (joint-weed. W. r. w. Ju. ☉.) stamens 8: styles 3: racemed spikes in a panicle, filiform: peduncles filiform, solitary, proceeding from above the imbricate truncate bracts: leaves linear: stipules sheathing, truncate. Very abundant on the sandy plains west of Albany. 8—15 i. S. D. T. Y. N. P. B. C. Granby, Con. Mch.

5. *Flowers sub-racemed; leaves cordate sagittate or hastate.*

sagitta'tum, (prickly knotweed, scratch grass. O. w. J. ☉.) stamens 8: styles 3 or 1: flowers in heads: leaves sagittate: stem with prickles reversed, or curved towards its base, climbing. S. Mch.

arifolium, (halbert knotweed. O. r-w. Ju. ☉.) stamens 6: styles 2 or 1: flowers distinct; spikes few-flowered: leaves hastate: stem with prickles reversed, sub-erect. Wet. 2—4 f. S. Mch.

convol'vulus, (bind knotweed. O. w. r. Ju. ☉.) stamens 8: styles 3: leaves oblong heart-hastate: stem twining, angled, roughish: divisions of the calyx obtusely keeled. S. Mch.

scandens, (climbing buckwheat. O. w. r. Au. ♃.) stamens 8: styles 3: leaves broad-cordate: stipules truncate, naked: stem twining, glabrous: calyx bearing the fruit 3-winged. S. Mch.

cilino'de, Mx. (Ju. ☉.) stamens 8: styles 3: leaves cordate: stipules sub-acute, surrounded at the base with an outer ciliate series: stem angled, prostrate or climbing, roughish: divisions of the calyx obtusely keeled. P. C. N. D. Canada.

Exotic.

fagop'yrum, (buck-wheat. W. r-w. Ju. ☉.) stamens 8: styles 3: racemes panicled: leaves heart-sagittate: stem erectish, unarmed: angles of the nuts equal. 1—2 f. Naturalized.

orien'tale, (prince's feather. r. Au. ☉.) stamens 7: styles 2: leaves ovate: stem erect, tall: stipules rough haired, somewhat salver-form. Naturalized. 3—6 f.

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(1) Var. terrestre, T. (2) amphibium, Var. natans, Mx. (3) amphibium, Var. natans, 3rd ed. Manual, and Var. aquaticum, T.

Southern.

hirsutum, Wr. (W. w. Ju. ☉.) stamens 7: styles 3-cleft: spikes filiform: stem and stipules very hirsute: leaves lanceolate, hirsute punctate. 2 f.

polygamum, Vent. (1) (w. Au. ♃?) stamens 8: styles 3: spike panicled: flowers solitary: divisions of the calyx obovate: leaves spatulate: stipules entire, obliquely truncate. A variety of the articulatum? Ph. 6—8 i.

fimbriatum, E. (w. Au. ♃?) spikes panicled: flowers solitary, fimbriate: stipule truncate, fringed: leaves linear, acute at each end. 2 f.

setaceum, Bald. (w. Ju.) stamens 8: styles 3-cleft: peduncles long, 2-spiked: spikes interrupted, hirsute: leaves broad-lanceolate, acuminate, hirsute: stipules hirsute, ciliate: stem erect, glabrous. 1—2 f.

gracile, N. (g-w. ☉.) dioecious, glaucous: racemes slender, filiform: flowers deflected, longer than the peduncles: peduncle articulated to the calyx: leaves spatulate-linear, obtuse: fruit longer than the calyx. 1—4 f.

17—4. Polym'nia. 55. Heli. s. sto.

canadensis, (white leaf-cup. W. w. or y. J. ♃.) viscid-villose: leaves denticulate, acuminate; lower ones pinnatifid; upper ones 3-lobed or entire. 2—3 f. *S.* P. C. D. O. Canada. Harper's Ferry. Mch.

uredalia, (2) (yellow leaf-cup. W. A. y. Ju. ♃.) leaves opposite, 3-lobed, acute, decurrent into the petiole; lobes sinuate-angled: rays elongated. 3—5 f. *S.* P. H. O. Mch. S—C.

21—1. Polypo'dium. 5. Fili. r. deo. sud. feb.

vulgare, (polypod. O. Ju. ♃.) frond deeply pinnatifid; divisions lance-linear, obtuse, crenulate, approximate, upper ones gradually smaller: fruit dots solitary: root chaffy. Var. *virginianum*, has a naked root. 8—12 i. *S.* Mch.

hexagonopterum, W. (W. Ju. ♃.) frond doubly pinnatifid, smoothish; two lower divisions deflexed; subdivisions lanceolate, obtuse, ciliate, those of the under leafets gash-crenate, and of the upper ones entire; the lowest ones adnate-decurrent: fruit dots minute, solitary. The whole frond together presents a triangular form. 12 i. *S.* O. T. M.

connectile, Mx. (W. Ju. ♃.) frond doubly-pinnatifid, ciliate; divisions opposite, contiguous, adnate: subdivisions somewhat oval: stipe chaffy: fruit dots minute. 12 i. W. V. C. Canada. Maine. M.

dryopteris, (3) (W. Ju. ♃.) frond ternate, doubly pinnate, straight, sub-rigid; divisions obtusish, sub-entire: fruit dots marginal, confluent. 8—12 i. W. P. K.

Southern.

virginianum, W. (Ju. ♃.) fronds deeply pinnatifid; divisions lanceolate, obtuse, very entire, approximate: upper ones gradually smaller: fruit dots solitary: root solitary.

incanum, W. (4) (O. Ju. ♃.) fronds deeply pinnatifid; divisions alternate, linear, very entire, obtuse; upper ones gradually smaller, scaly beneath: stipe scaly, fruit-bearing at the apex: fruit-dots solitary.

3—2. Polypo'gon. 10. Gram. far. ton.

racemosus, Mx. (5) (Au. ♃.) panicle dense, conglomerate, interrupted: bristle of the glume scabrous: paleas unarmed, hairy at the base: culm branched. B. N. Mch.

4—1. Polypre'mum. 46. Gent. bit. ton. dia.

Southern.

procumbens. (O. w. Ju. ☉.) stem furrowed, with the margin of the furrows sharp-

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Polymnia. Said to be named after Polymnia, one of the Muses.

Polypodium. Gr. *polūs*, many, and *pous*, foot, because the multitude of roots appear to serve the office of feet.

Polypogon. Gr. *polūs*, many, and *pōgon*, beard, from the unusual number of awns.

Polypremum. Gr. *polūs*, many, and *premnon*, a stalk or shoot.

(1) parvifolia, Mx. (2) maculata, Cavanilles. (3) calcarem, W. Nephrodium, Mx. (4) ceteraccinum, Mx. Acrostichum polypodoides, L. (5) glomeratus, W.—Agrostis, Mx.

serrulate, dichotomous above: leaves opposite, linear, sessile, finely serrulate, sub-decurrent. 6—12 i.

17—1. Polyp'teris. 55. Eupa. h. bit-ton. sec-stim. eme. feb.

Southern.

integrifolia, N. (♃.) stem erect, sub-scabrous, branching above: leaves alternate, entire, lance-linear, scabrous. 3—4 f.

5—2. Polytæ'nia. 60. Umb. sto. aro. ton.

nuttallii, Dc. (W.) leaves three-parted at the top; segments 3-cleft, wedge-form at the base, leafets lanceolate, toothed at the apex. Arkansas. Mch.

10—1. Poma'ria. 93. Leg. f. nut. h. asc..

Southern.

glandulosa, Cavan. (W. y. ♄.) branching, glandular punctate: branches slender, sub-pubescent. leaves abruptly bipinnate; leafets ovate, oblique at the base, entire, sessile, sub-pilose, smooth and pale-green above.

6—1. Pontede'ria. 17. Pont. ton.

cordata, (pickerel weed. O. b. Ju. ♃.) leaves heart-oblong, obtuse: spike many-flowered, compact: divisions of the corol oblong. Var. *angustifolia*, Ph. (1) leaves elongated-triangular, truncate and sub-cordate at the base. 1—2 f. *S.* Mch.

Southern.

lancifolia, M. (b J. ♃.) leaves lance-oblong: flowers spiked. Probably a variety of the last. Elliott.

20—8. Pop'ulus. 99. Sali. emo. ton.

tremuloides, Mx. (2) (white poplar, american aspen. W. Ap. ♄.) leaves heart-roundish, abruptly acuminate, tooth-serrulate, glabrous, a little pubescent at the margin, with two glands at the base on the upper side: petioles compressed, in the young state silky. 20—30 f. T. B. P. C. D. F. O. N. V. Mch.

gran'didenta'ta, (3) Mx. (tree poplar. W. Ap. ♄.) leaves round-ovate, acute, unequally and coarsely sinuate-toothed, glabrous: in the young state villose: petioles compressed. Var. *pendula*, branches pendulous. 40—50 f. *S.* T. F. B. C. N. P. Mch.

betulifolia, Ph. (3) (birch-leaf poplar. Ap. ♄.) leaves rhomboidal, long acuminate, dentate, glabrous: young branches pilose. 30—40 f. T. Y. V. C. N.

angulata, (4) (balm of gilead water poplar, cotton wood. O. Ap. ♄.) leaves ovate-deltoid, acuminate, obtusely hook-toothed, glabrous; younger ones broad-cordate: branches wing-angled. 80 f.

balsamifera, W. (balsam poplar. Ap. ♄.) leaves ovate-acuminate, with close-pressed serratures, white and net-veined beneath: buds resinous. 70—80 f. T. N. V. C. W. Canada.

candicans, A. (6) (W. Ap. ♄.) leaves cordate, ovate, acuminate, obtusely and unequally serrate, whitish beneath, sub-3 nerved, net-veined: petioles hirsute: buds resinous: branches terete. 40—50 f. Y. C. D. Mch.

lævigata, W. (7) (cotton tree. W. Ap. ♄.) leaves round-ovate, deltoid, acuminate, sub-cordate, unequally serrate, glabrous, glandular at the base: petioles compressed: younger branches angled. 70—80 f. *S.* T. P. F. D. Mch.

Polypteris. Gr. *polūs*, many, and *pteris*, wing, in allusion to the many-valved (or winged) egret.

Polytænia. Gr. *polūs*, many, and *tainia*, fillet, from the fillets between the seeds.

Pomaria. Lat. *pomum*, an apple, or pear, analagous to Pyralea.

Pontederia. In honor of Julius Pontedera, Prof. of Botany at Padua, in Italy.

Populus. Lát. *populus*, the people; the walks at Rome having been shaded with the P. dilatata, hence it was called the people's tree.

(1) Species of Ph. mucronata, Rs. (2) trepida, W. (3) trepida M. (4) hudsonica, Mx. younger, nigra, Mx. elder. (5) heterophylla, Du Roi. (6) latifolia, Mn. (7) canadensis, Mx.

heterophylla, Mx. (various leaved poplar. W. M. ♄.) leaves round-ovate, cordate, with a small sinus, sub-auricled, obtuse, hook-toothed; younger ones downy. 70—80 f. *S.* P. C. N.

monolifera, W. (W. Ap. ♄.) leaves sub-cordate-deltoid, glabrous, glandular at the base, with cartilaginous, sub-pilose, hooked serratures; nerves spreading; petioles compressed above: older branches terete. 60—70 f. Troy, Albany.

Exotic.

dilatata, W. (lombardy poplar. italian poplar. Ap. ♄.) leaves glabrous both sides, acuminate, serrate, deltoid, the breadth equal to, or exceeding the length: branches erect, close to the stem. It is said no pistillate plant of this species has been brought to America. Consequently no seeds are obtained from it, and it has not been reproduced here from seed. 40—80 f.

graeca, W. (athenian poplar. Ap. ♄.) leaves cordate-ovate, acuminate, obsoletely serrate: petioles compressed. 20—40 f.

12—12. Porcel'ia. (1) 76. Anno. f. aro. b. bit. ton.

triloba, W. (custard apple, paw-paw. p. Ap. ♄.) leaves smoothish, oblong-wedge-obovate: outer petals orbicular: fruit large, fleshy. 30—40 f. *S.* M. K. S—C. Mch.

Southern.

parviflora, Mx (g-p. M. ♄.) leaves wedge-obovate, mucronate, under surface and branches rufous pubescent: outer petals scarcely twice as long as the calyx. 2 f. S—C.

pygmaea, Mx. (Ap. ♄.) leaves long-linear, wedge-form, obtuse, coriaceous, with the branches glabrous: outer petals obovate-oblong, much larger than the calyx. 6—18 i. Florida.

grandiflora, Mx. (y-w. Ap. ♄.) leaves wedge-obovate, obtuse, under surface and branches rufous pubescent: outer petals obovate, much larger than the calyx. 18—24 i.

12—1. Portula'ca. 86. Port. muc-nut. lax.

oleracea, (purslane. O. y. J. ☉.) leaves wedge-form: flowers sessile. *S* Mch.

Southern.

pilosa, (W. ☉.) leaves subulate, alternate: axils pilose, flowers sessile, terminal.

4—4. Pot'amoge'ton. 7. Fluv. ton—.

natans, (pond-weed. O. g. J. ♃.) leaves long-petioled, floating, lance-oval; at first some of them are sub-cordate. On water. *S.* Mch.

fluitans, (W. g. Ju. ♃.) lower leaves long, linear: upper ones lanceolate, nerved, coriaceous; all petioled. In water. *S.* B. C. F. N.

heterophyllum, Sr. (2) (variegated pond-weed. W. g. Ju. ♃.) upper leaves petioled, oval, tapering to both ends; lower ones crowded, sessile, linear. *S.* T. P. Y. C. N. F. Mch.

diversifolium, B. (3) (O. g. Ju. ♃.) floating leaves opposite, lanceolate, 5-nerved, short-petioled; sub-mersed ones sessile, alternate, filiform: spikes dense, axillary, alternate, shorter than the leaves. Water. *S.*

perfoliatum, (W. g. Ju. ♃.) leaves heart-ovate, clasping, all immersed: spikes terminal, above water: flowers alternate. In water. P. Y. T. B. C. N. F. V. Mch.

lucens, Mx. (O. g. J. ♃.) leaves very large, lanceolate, sub-sessile, middle rib thick: spike long, cylindric. The substance of the leaf is composed of translucent cellules; so that to the naked eye it appears to be a thin, pellucid membrane.

Porcelia. In honor of Porcel, a distinguished Spanish botanist.

Portulaca. Lat. *porto*, to carry, and *lac*, milk, because it increases the milk of animals.

Potamogeton. Gr. *potamos*, river, and *geitōn*, neighbor; because it is always found in water.

(1) Orchidocarpum, Mx. Annona, W. Asimina, Ad. (2) hybridum, Mx. (3) setaceum, Ph.

Spike from 1 to 2 inches long, with a peduncle thrice as long. The stipule above each leaf is about an inch in length; its substance resembling the leaf. Water. *S.* Mch.

crispum, (r-g. J. ♃.) leaves alternate, or opposite, lance-oval, undulate, serrate: spikes few-flowered. *S.* T. P. Canada.

pectinatum, S. (1) (W. g. J. ♃.) leaves long-bristle-form, approximate, two-ranked, sheathed at the base: spikes terminal, interrupted, whorled: fruit ovate, turgid. All immersed in water but the spike. T. V. P. C. Pittsfield, Mass. Mch.

gramin'eum, Mx. (2) (grass pond-weed. O. g. Ju. ♃.) leaves linear, grass-like, alternate, sessile: stipules broad: stem terete, sub-dichotomous. In July, some of these plants begin to raise their spikes of unopened flower-buds to the surface of the water. As soon as the stigmas are fertilized by the pollen, the spikes are again withdrawn, to ripen the fruit under water. Other individuals succeed them, and the process goes on for several weeks. *S.*

compressum, (W. g. Ju. ☉. or ♃.) leaves linear, obtuse: stem compressed: spike short, 4 to 6-flowered. Water. P. Y. T. K. Mch.

zosterifolium, Trin. (g-y. Au. ♃.) leaves alternate, linear, closely sessile: stem flexuous, compressed, sub-alate, branches axillary: stipules lance-linear, acute: spike many (20—40) flowered. 2—3 f. Hudson and Susquehanna rivers. Streams in Virginia. Aikin. Mch.

11—12. POTENTIL'LA. 92. Rosa. ton.

1. *Leaves ternate.*

tridentata, A. (mountain cinquefoil. A. w. Ju. ♃.) ascending, smoothish: stipules subulate: leaves wedge-oblong, 3-toothed, at the end a few close-pressed hairs: flowers in a terminal forked corymb; petals oblong-ovate, longer than the calyx. 5—10 i. *S.* D. White Mountains, Massachusets. Mch.

emarginata, Ph. (♃.) assurgent, hirsute: stipules ovate, entire: leaves ternate; leafets sessile, approximate, gash-toothed, hirsute on both sides: pedicels few, terminal, elongated, 1-flowered: petals wedge-oblong, emarginate, twice the length of the calyx. Labrador.

nivea, W. (y. Ju. ♃.) assurgent, woolly-tomentose: stipules ovate, entire: leafets sessile, approximate, gash-toothed, hirsute above, white tomentose below: peduncles few, terminal, 1-flowered: petals broad-obcordate, scarcely longer than the calyx. Labrador.

villosa, Ph. (hairy five-finger. W. ♃.) assurgent, silky-villose: stipules broad, membranaceous, entire: leafets sessile, approximate, with shining, close-pressed hairs above, hoary-tomentose beneath: peduncles short, aggregate: petals obcordate, longer than the calyx.

hirsuta, Mx. (W. w. Ju. ♃.) erect, simple, very hirsute: stipules lanceolate, entire: leaves obovate, gash-laciniate: panicle few-flowered: pedicels short: petals smaller than the calyx. Canada. Western part of New York.

norwegica, (cinquefoil. O. y. J. ☉.) erect, branching, hairy: stipules like an ovate leaf, halved longitudinally; toothed: leafets lance-rhombic, gash-toothed: branches dichotomous: peduncles axillary, solitary: petals shorter than the calyx. 8—18 i. *S.* Mch.

nana, Lehm. ( ) stem erect, 1 flowered: leaves ternate; leafets round-obovate, obtusely dentate, both sides pilose, becoming white beneath: petals obcordate, 3 times as long as the calyx. R. A.

fragiformis, W. ( ) stem erect, few-flowered: leaves ternate; leafets round-obovate, obtusely dentate, both sides spreading, pilose, villose at the margin: petals obcordate, a little longer than the calyx.

vahliana, ( ) stem erect, somewhat 1-flowered: leaves ternate; lateral leafets cuneiform, trifid; terminal one rhomboid, very hirsute, beneath shining, whitish, or becoming yellow-tomentose: petals reniform, twice as long as the calyx. R.

biflora, Lehm. ( ) stem erect, somewhat 2-flowered at the apex: leaves ternate, very slenderly pilose; lateral leafets deeply 2-parted; terminal one 2-parted; segments linear, very entire, ciliate at the margin. R. A.

Potentilla. Lat. *potentia*, power; from its imaginary medical virtues.
(1) marinum, Mx. (2) pauciflorum, Ph.

2. *Leaves digitate, in fives, rarely in sevens.*

canadensis, (1) (common five-finger. O. y. M. ♃.) procumbent, sub-ramose, whitish-silky: stipules ovate, gashed: leaves wedge-obovate, gash-toothed: stem ascending and creeping, hirsute: peduncles solitary, elongated: divisions of the calyx lance-linear: petals orbicular, sub-entire, of the length of the calyx. This plant is so long in flower, and assumes so many forms and sizes, that students in botany often make several species of it. Persoon's diagnosis of *reptans* can be found in this plant: but we have no such species. 2—18 i. S. Mch.

simplex, Mx. (W. y. M. ♃.) erect, simple, hirsute: stipules gashed: leaves oblong-oval, coarsely toothed, upper ones sessile: peduncles axillary, solitary, elongated, 1-flowered: divisions of the calyx lance-linear: petals round-obcordate, longer than the calyx. T. Y. V. P. B. C. D. F.

sarmentosa, M. (y. M. ♃.) stem sarmentose: leaves quinate; leafets obovate, obtuse, serrate, glabrous above, hirsute beneath: petals roundish, longer than the calyx. B.

opaca, W. (y. Ju. ♃.) decumbent, filiform, hirsute: stipules linear-oblong, entire: radical leaves in 7's and 5's, wedge-linear, dentate: peduncles axillary, solitary, 1-flowered: petals retuse, as long as the calyx. Labrador.

dissecta, Ph. (♃.) erect, branching, nearly glabrous: leaves quinate; leafets pinnatifid; divisions entire, acute: flowers terminal, sub-corymbed. Hudson's Bay.

argentea, (silvery five-finger. O. w-y. Ju. ♃.) stem prostrate and ascending, rarely sub-erect, branching, white-downy: stipules ovate, acute: leaves wedge-form, gash-toothed, silvery-white down beneath: petals retuse, scarcely longer than the calyx. 4—10 i. S.

recta. P. (y. J. ♃.) stem erect: leaves in fives and sevens; leafets lanceolate, coarsely toothed: petals ob-cordate, larger than the calyx: corol large, pale. P.

gracilis. Doug. ( ) stem erect high, corymb-panicled above, softly hirsute: leaves long-petioled, growing in fives: upper ones in some manner sessile; leafets lanceolate, deeply pinnatifid serrate: beneath white-tomentose: stipules large, lanceolate, very entire: petals obcordate, longer than the silky calyx. R.

flabelliformis. Lehm. (y.) stem erect, slender: leaves in sevens or nines; leafets deeply pinnatifid, above close-pressed-pilose, beneath white-tomestose; divisions linear, distant, revolute at the margin: flowers corymbed: petals obcordate, exceeding the calyx.

chrysantha, Trevir. ( ) stem ascending: leaves in fives or sevens; leafets elliptic, coarsely serrate, pubescent: upper stipules somewhat gashed: petals obcordate, twice as long as the calyx. R.

concinna, Rich. (y.) stem abbreviated, few-flowered: radical leaves in fives or sevens; leafets cuneate, obovate, serrate at the apex, beneath very densely white-tomentose: petals obcordate, exceeding the calyx. A.

3. *Leaves more or less pinnate.*

fruticosa, (2) (shrubby cinquefoil. W. y. J. ♄.) fruticose, hirsute: stipules ovate, entire: leaves quinate-pinnate; leafets linear-oblong, entire: petals longer than the calyx. 1—5 f. S. V. W. Y. P. B. D. O. N. Canada. Mch.

anserina, (tansey cinquefoil. silver-weed. O. y. J. ♃.) creeping: leaves interruptedly pinnate; leafets numerous, gash-serrate, silky, white-downy beneath: peduncles solitary, 1-flowered. Var. *grœnlandica*. nearly glabrous, very small: leaves much smaller, in few pairs; leafets obovate, reddish-green, whitish beneath. Mch.

pennsylvanica, (W. y. Ju. ♃.) erect, very soft, and somewhat whitish-villose: leaves pinnate; leafets oblong, obtuse, sub-pinnatifid, woolly: panicle straight, many-flowered: divisions of the calyx semi-oval. It is doubtful whether this is an American species. Torrey. P. Y. T. W. V. C. D.

supina, (W. y. J. ☉.) procumbent, dichotomous: leaves pinnate; leafets oblong, deeply toothed: peduncles lateral, solitary, 1-flowered, spreading. S. P. D. Canada.

leucophylla, T. (W.) erect: leaves pinnately divided; lobes oblong, deeply and sharply serrate, whitish silky on both sides: stipules lanceolate, acute, very entire or 1-toothed: flowers lax corymbed: divisions of the calyx lanceolate, very entire, narrower than the bracts: receptacle pilose: pericarp smooth. 15 i.

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(1) pumila, Lk. (2) floribunda, Ph.

arguta, Ph. (1) (O. w. J. ♃.) stem erect, pubescent, viscous above: leaves unequally pinnate; leafets somewhat round-ovate, oblique at the base, doubly gash-toothed: stipules sub-entire: calyx acute, somewhat shorter than the corol. 1—3 f. C. T. R. A. N. Mch.
effusa, Doug. (y.) hoary-tomentose: stem ascending, weak: leaves interruptedly pinnate; leafets oblong, gash-serrate: flowers dichotomous-panicled: stipules lanceolate, acuminate, very entire: petals obcordate, equaling the acuminate calyx. R.
bipinnatifida, Doug. ( ) stem erect: leaves pinnate; leafets obovate, pectinate-pinnatifid; above silky-silvery; beneath white-tomentose: stipules rhomboid, gashed: flowers corymbose-crowded. R. A.
sericea, L. ( ) stem ascending, few-flowered: leaves pinnate; leafets ovate, pinnatifid; both sides tomentose; beneath hoary: stipules lanceolate, very entire. Var. *glabrata*, younger and older leafets silky only at the apex. R.
drummondii, Lehm. (y.) stem herbaceous, sub-erect, lax: radical leaves irregularly sub-verticillately pinnate: cauline ones two-paired: leafets obovate, truncate, cuneate at the base, deeply gash-serrate, ciliate, a little glabrous: stipules ovate, very entire: petals obcordate, veiny, twice as long as the calyx. R.

4. *Leaves pinnate-digitate.*

diversifolia, Lehm. (y.) stem ascending: radical leaves pinnate, somewhat 3-paired and quinate; cauline ones two-paired, digitate, ternate: leafets cuneiform, above coarsely-gash-serrate, silky pilose at the apex: stipules lance-ovate, very entire: petals obcordate, longer than the calyx. R.
pulcherrima, Lehm. (y.) stem ascending, villose: leaves pinnate with an odd terminal leafet: leafets densely crowded, elliptic, equally serrate, close pressed-pilose above, white-tomentose beneath: stipules ovate, acute very entire, woolly: petals obcordate, longer than the calyx. R.
rubricaulis, Lehm. (y.) stem ascending: radical leaves pinnate, two-paired; cauline ones ternate; leafets approximate, oblong, pinnatifid-serrate, glabrous above, tomentose beneath: stipules very entire: petals obcordate, somewhat exceeding the calyx: receptacle sub-glabrous. A.
pulchella, Br. (y.) stem procumbent, somewhat 1-flowered: leaves pinnate, somewhat two-paired, silky-tomentose beneath: leafets twice 3-lobed or linear, very entire; margin revolute: unequally pinnatifid: stipules sheathing: style glandulous dilated at the base. A.

Southern.

humifusa, N. (W. y. M.) leaves digitate, quinate: leafets wedge-oblong, obtuse, gash-toothed, white-tomentose beneath: peduncles short, filiform, procumbent. 4—5 i.

Potentilla, COMARUM.

19—12. POTE'RIUM. 92. Sang. ton.

annuum, N. (W. ☉.) herbaceous; glabrous: stem erect, dichotomous: leafets 4 to 5-paired, ovate, deeply pectinate-pinnatifid; divisions linear, very narrow: little heads oval. Red river.
sanguisor'ba, (burnet. J. ♃.) stem somewhat angled, unarmed: leaves pinnate; leafets serrate: flowers in heads. Lake Huron.

Pothos, ICTODES.

17—1. PRENAN'THES.* 53. Cich. sal. asc.

alba, (white lettuce. O. w. p. Au. ♃.) radical leaves angled, hastate, toothed, somewhat lobed; cauline ones round-ovate, toothed, petioled; uppermost ones lanceolate:

Poterium. Gr. *poterion*, a cup, a beverage, from its being used as a cooling drink.
Prenanthes. Gr. *prēnēs*, drooping, and *anthos*, flower, from the pendulous flowers.

(1) Bootia sylvestris, Bw. See page 200. (2) serpentaria, cordata.

* My friend and pupil Mr. Riddell, has announced four new species of Prenanthes, which he names, *miamensis*, [illegible], *parviflora*, and *platyphylla*. As several other botanists have proposed to me new species in this deceptive genus, I defer their publication for the present, to avoid interference, and the increase of doubtful species.

panicle lax; the terminal fascicle nodding: involucre 8-cleft, 9 or 10-flowered. Var. *nana*, (Bw.) low: leaves 3 parted, hastate, ovate and lanceolate, sometimes all simple: racemes panicled or simple. 1—3 f. S. Mch.

altissima, (W. p-y. Au. ♃.) stem branching: leaves petioled, 3-lobed, angled, denticulate; margin scabrous: racemes axillary: flowers nodding: involucre about 5-flowered. Probably a variety of *alba*. 4—8 f. S. P. C. D. O. N.

virgata, Mx. (1) (O. w-p. Au. ♃.) glabrous: stem very simple: leaves all lyrate-sinuate: branchlets somewhat 1-sided: flowers pendant: involucre glabrous, 8-cleft, 10-flowered. 3—6 f. S. P. Y. Pittsfield, Mass.

crepidinea, Mx. (W. S.) leaves broad-lanceolate, attenuated at the base, unequally tooth-angled: panicle fascicled, terminal, few-flowered, nodding: involucre hirsute, 10 to 12-cleft, about 20-flowered. 4—6 f. S. D.

rubicunda, W. (S. ♃.) leaves ciliate; radical ones hastate-angled, sub-entire; lower cauline ones obovate, tapering at the base, sub-angled; upper ones lanceolate, entire: racemes simple, flowers nodding. This was considered a variety of the *alba*, by Linneus, and is made synonymous with the *virgata*, by Mr. Nuttall. 18 i. C.

racemosa, Mx. (W. S.) stem simple: leaves all undivided, smooth; radical ones lance-oval; cauline ones half clasping: racemes oblong, very hirsute; fascicles nodding; involucre 8 to 9-parted, 9 to 12-flowered. 14 i. Goodrich. U. C. Mch.

deltoidea, E. (W. p. S.) stem simple, glabrous: leaves deltoid, acuminate, acutely-denticulate, sub-glaucous beneath: racemes axillary, few-flowered: involucre 5-flowered. 2 f. S. P. O.

pauciflora, T. (W.) stem branching, flexuous, panicled above: branchlets 1-flowered: flowers erect: leaves lance-linear, runcinate, glabrous: involucre about 5-flowered.

tenuifolia, T. (W.) stem branching, glabrous: leaves linear, very entire: panicle lax, terminal: flowers erect: involucre about 5-flowered. This and the preceding species were collected near the Rocky Mountains by Dr. James. They will probably hereafter be referred to a new genus. Torrey.

Southern.

simplex, Ph. (p. Ju.) stem simple: upper leaves lance-linear, entire; radical ones lanceolate, sinuate: raceme terminal, simple: flowers nodding: involucre 8-flowered. Is this distinct from the *virgata?* Elliott. 2 f.

illinoiensis, P. (W.) stem simple, and with the leaves, very rough: leaves all undivided, lance-oval: raceme long: fascicles sub-sessile, erect, hirsute.

aphylla, N. (p. r. M. ♃.) stem sub-simple: branches virgate: radical leaves linear; cauline ones small, subulate, scattered: flowers solitary: involucre 8-cleft, many-flowered. 2 f. Is this distinct from the next? Florida.

5—1. PRI'MULA. 35. Prim. sed. sop.

farinosa, Var. *americana*, (bird's eye primrose. W. r. ♃.) leaves obovate-spatulate, repandly crenate-dentate, mealy beneath: umbel erect, many-flowered: peduncles spreading: limb of the corol flat, as long as the tube; divisions obtuse, obcordate. 6—10 i. D. Canada. Mch.

mistassinica, Mx. (W. ♃.) small, glabrous: leaves oval-spatulate, sub-dentate; scape elongated: umbel few-flowered: limb of the corol reflexed; the divisions wedge-oblong, obtusely 2-cleft: capsule oblong, exsert. Canada. D. Mch.

angustifolia, T. (W. p.) leaves lance-oval, very entire, glabrous: scape 1-flowered: divisions of the corol ovate, very entire. 1—2 i.

Exotic.

acaulis, (primrose. ♃.) leaves rugose, toothed, hirsute beneath: scape 1-flowered.

veris, (cowslip primrose. r-y. ♃.) leaves rugose, toothed: limb of the corol concave; neck of the tube oblong: calyx inflated.

elatior, (oxlip primrose. w-y. ♃.) leaves rugose, toothed, hirsute: limb of the corol flat; neck of the tube hemispheric: flowers naked within.

auric'ula, (auricula primrose. ♃.) leaves serrate, fleshy, obovate: scape many-flowered: calyx mealy.

Primula. Lat. *primus*, first, it being almost the first flower in spring.

(1) autumnalis, Wr. rubicunda, W.?

6—1. PRI′NOS. 95. Ilic. b. ton. f. ton-eme.

verticillatus, L. (1) (winter berry, false alder. W. w. J. ♄.) leaves deciduous, oval, serrate, acuminate, pubescent beneath: fascicles of staminate flowers axillary, umbelliferous; the pistillate flowers are aggregated: both 6-parted. Var. *tenuifolius*, leaves obovate, membranaceous, smooth beneath: pistillate flowers 4—5-cleft, sub-solitary. Sometimes this shrub is monœcius, and sometimes perfect-flowered. Generally in wet places. Berries red, permanent. 4—8 f. *S.* B. P. C. D. F. O. N. T. Mch.

glaber, (ink-berry. Ju. ♄.) leaves evergreen, wedge-lanceolate, coriaceous, glabrous, shining, equally sub-dentate above: pedicels axillary, sub-solitary, mostly 3-flowered. 3—4 f. *S.* P. Y. B. C. T. Canada. S—C.

lævigatus, Ph. (W. Ju. ♄.) leaves deciduous, lanceolate, close-pressed, serrate, acuminate, glabrous both sides, shining on the upper side, hardly pubescent at the nerves beneath: pistillate flowers axillary, solitary, sub-sessile; staminate flowers scattered; all 6-cleft. 6—8 f. *S.* P. Y.

ambiguus, Mx. (w. J. ♄.) leaves deciduous, oval, acuminate, at both ends, mucronate, serrulate, sub-pubescent beneath: flowers 4 or 5-cleft; staminate ones crowded together on the lower branches; pistillate ones solitary. Flowers perfect, 7-cleft: stamens 7. Brunswick. Wet or damp. 3—5 f. *S.* T. Y. B. C.

Southern.

integrifolius, E. (♄.) leaves deciduous, oval, entire, mucronate, petioled, glabrous on both sides: pistillate flowers solitary, long-peduncled. A small tree.

lanceolatus, Ph. (W. J. ♄.) leaves deciduous, lanceolate, finely and remotely serrulate, acute at each end, glabrous on both sides: pistillate flowers scattered, generally in pairs, peduncled, 6-cleft; staminate ones aggregate, triandrous. Berries small, scarlet.

coriaceus, Ph. (2) (M. ♄.) leaves perennial, broad-oval, acute, serrate near the apex, lucid above, minute-punctate beneath: pistillate flowers solitary, about 8-parted; staminate ones aggregate, octandrous. Var. *latifolia*, leaves lance-obovate, acuminate. Var. *angustifolia*, leaves lanceolate, acute. 5—6 f.

Prismatocarpus, CAMPANULA.

3—3. PROS′ERPINA′CA. 88. Halo. emo.

palustris, (mermaid weed. g. Ju. ☉.) leaves linear-lanceolate, serrate above water, pinnatifid below water. *S.* N. C Y. P. T. B. F. Pittsfield.

pectinata, Lk. (g. Ju. ☉.) leaves all pectinate-pinnatifid. Water. *S.* P. Y. Dayton, O. S—C.

10—1. PROSO′PIS. 93. Leg. nut. lax.

glandulosa, T. (W. ♄.) spines thick, cylindric-conic: leaves conjugate-pinnate, or pinnate in one pair; leafets distant, 6—7-pairs, linear, sub-falcate, obtuse, glabrous, sub-coriaceous; petiole between the leaves and leafets glandular: legumes straight: spikes cylindric.

13—1. PRUNEL′LA. 42. Labi. sto. aro.

vulgaris, Var. *pennsylvanica*, (heal-all, self-heal. O. J. ♃.) leaves petioled, oblong-ovate, toothed at the base: lips of the calyx unequal: upper one truncate, awned: stem ascending. 6—12 i. *S.* Mch.

Prinos. Greek name for the scarlet oak (saw-leaved oak) applied on account of its scarlet berries in winter.

Proserpinaca. Lat. from the goddess Proserpina; being partly concealed below the surface of the water, or mud.

Prosopis. Gr. *prósopon*, face, from the appearance of the fructification.

Prunella. Altered from Brunella, from the German *die (Breune)* a disease in the jaws and throat, which it is said to cure.

(1) gronovii, Mx. (3) atomarius, N.

12—1. Pru'nus. 92. Amyg. b. ton. pru. feb.

americana, Marshall. (1) (meadow plum. O. w. M. ♄.) somewhat thorny? pedicels aggregated, 3—5: stipules setaceous, compound: leaves oblong-oval and obovate, abruptly and strongly acuminate, doubly serrate: fruit sub-ovate, mostly solitary, reddish-yellow, with a thick coriaceous skin. 12—15 f. · Dn. M. S. Plum about the size of the damson; very sweet when ripe, stiptic before. *S.* Mch.

chicasa, Mx. (2) (summer plum. meadow plum? W. w. M. ♄.) branches very glabrous, somewhat thorny: leaves oblong-oval, acute or acuminate, minutely serrate: buds aggregated, each about 2-flowered: pedicels very short: divisions of the glabrous calyx obtuse: fruit sub-globose. The plums are yellow and reddish? P.

maritima, Mx. (L. w. M. ♄.) peduncles sub-solitary: leaves ovate-oblong, acuminate, doubly serrate. Pursh has copied in the P. *acuminata* of Mx. as a synonym, which is—branchlets glabrous: leaves oblong-oval, long, acutely acuminate: calyx glabrous: drupe long peduncled, ovate, acuminate. Y.

Exotic.

spinosa, W. (english sloe. ♄.) peduncles solitary: leaves lance-oval, pubescent beneath: fruit straight: branches thorny.

domestica, (plum. w. M. ♄.) peduncles sub-solitary: leaves lance-ovate, convolute: branches thornless. Var. *damascena*. (damson plum) fruit oblong, blue. Var. *claudiana*. (sweet plum. horse plum) fruit round, at first green, becoming yellowish. Var. *enucleata*, (stoneless plum) the putamen obsolete.

3—2. Psam'ma. (3) 10. Gram. far. ton.

arenaria, (L. Au. ♃.) panicle spiked: glumes acute: paleas thrice as long as the chaff: leaves involute. 2—3 f. *S.* B.

21—1. Psilo'tum. 5. Feili. sec-stim.

Southern.

triquetrum, Sz. (4) (J. ♃.) stem naked, dichotomous: with the branches 3-angled.

16—10. Psora'lea. 93. Leg. f. nut. g-f. asc.

esculenta, Ph. (bread root. W. b. J. ♃.) wholly villose: leaves quinate-digitate; leafets lanceolate, unequal, flat, very entire: spikes axillary, dense-flowered: divisions of the calyx lanceolate, a little shorter than the corol: legume ensiform, beaked: root fusiform. The root affords a staple article of diet to the western Indians. 12—18 i. *S.*

incana, N. (5) (W. b. Ju. ♃.) wholly silky-tomentose: leaves quinate and ternate; leafets lance-oblong: spikes terminal, interrupted: bract ovate, acuminate: flowers nearly opposite, sessile. 12 i. *S.* Red River, Canada. D.

physodes Doug. (W.) glabrous: leafets in 3, rarely 5 pairs, broad rhomb-ovate, acute, mucronate, obscurely glandular, terminal one long-petioled: racemes peduncled, lax, axillary, longer than the leaf. R.

lanceolata, Ph. (6) (W. w-b. Au. ♃.) sub-pubescent: stem erect, sparingly branched: leaves ternate; leafets oval, and lance-oval, obtuse, sub-mucronate: peduncles longer than the leaves: spikes capitate, many-flowered: bracts deciduous: teeth of the calyx small, obtuse. 1 f. R. Missouri.

Prunus. Lat. *prunus*, Gr. *proune*, plum, said to be derived from an Asiatic word for the wild plum.

Psamma. Gr. *psammos*, sand in which this grass grows abundantly on the sea coast of Europe.

Psilotum. Gr. *psilos*, naked, being nearly destitute of leaves.

Psoralea. Gr. *psoraleos*, scabby, some parts of the plant being besprinkled with dots, which give it a scurfy appearance.

(1) hiemalis? Mx. nigra? M. spinosa? Wr. (2) insititia. Wr. (3) Arundo, L. (4) floridanum, Mx. Hoffmannia, aphylla, W. Bernhardia dichotoma, Ph. Lycopodium nudum, L. (5) argophylla, Ph. (6) elliptica, Ph. arenaria, N.

floribunda, N. (J.) canescent, not glandular, much branched: leaves 3—5-foliolate; leafets varying from linear to obovate-oblong, slightly mucronate: stipules setaceous, minute: racemes many-flowered, oblong scarcely interrupted, twice as long as the leaves; pedicels as long as the flowers: bracts small, ovate, acuminate: teeth of the calyx somewhat equal, ovate, acute: vexillum nearly orbicular. *S.* Rocky Mts.

laxiflora, N. ( ) sparingly glandular; young shoots pubescent: stem dichotomous: stipules minute: leaves 3-foliolate; leafets sessile, long and linear, or somewhat oblong: apiculate peduncles longer than the leaves: spikes short, with the flowers somewhat distant: calyx small and pubescent; the teeth obtuse. Plains of the Platte.

brachiata, Doug. (w. b.) stem erect, somewhat branched, nearly hispid with long spreading hairs: leaves 5-foliolate, hirsute with appressed hairs; leafets elliptical or obovate-oblong, rather obtuse: peduncles elongated: spikes oblong: flowers erect, sessile: bracts as long as the flower: teeth of the calyx lanceolate, the 2 upper ones united above the middle. Oregon.

hypogaea, N. (w-b.) stemless, hirsute with whitish appressed hairs: leaves 5—7-foliolate; leafets linear-lanceolate, or linear-oblong, usually acute: spikes capitate, on peduncles much shorter than the petioles: segments of the calyx linear, acuminate, the lowest one elongated. Plains of the Platte.

subacaulis, T. & G. (Ap. M.) nearly stemless: peduncles and petioles hirsute with spreading hairs: leaves on very long petioles, 7-foliolate: leafets obovate-oblong, nearly glabrous above, the midrib beneath and margins hairy: peduncles longer than the leaves: spikes ovate, rather dense: bracts and stipules ovate, acuminate: calyx much shorter than the corolla; the teeth obtuse, lowest one produced, the others very short. Tennessee.

Southern.

canescens, Mx. (W. y. J. ♃.) hoary: leaves ternate, short-petioled, broad-lanceolate: spikes lax-flowered: flowers pedicelled: calyx pilose. 2—3 f.

tenuiflora, Ph. (W. b. S. ♃.) pubescent, very branching: leaves ternate; leafets oval, rugose-punctate on both sides: peduncles axillary, about 3-flowered, longer than the leaves. 2 f.

lupinella, Mx. (p. J. ♃?) glabrous: leaves digitate, long-petioled: leafets filiform: racemes many-flowered, longer than the leaves: legumes rugose. 2 f.

longifolia, Ph. (W. w? ♃.) wholly silky-villose: leaves ternate; leafets long-linear: spikes axillary, peduncled, lax-flowered, shorter than the leaves: teeth of the calyx and bracts subulate.

cuspidata, Ph. (W. ♃.) villose: leaves digitate-quinate; leafets obovate, mucronate, very entire: spikes axillary, dense-flowered: divisions of the calyx and bracts ovate, cuspidate, distincly punctate.

onobrychis, N. (1) (W.) stem smooth: leaves ternate: leafets lance-ovate, sub-pubescent: racemes axillary, long-peduncled: flowers one-sided: legume sub-ovate, muricate, smooth. 3—5 f. K.

virgata, N. (b. ♃.) stem virgate, sub-pubescent: leaves simple, distant, lance-linear: spikes axillary, shorter than the leaves. 2 f.

melilotoides, Mx. (p. J. ♃?) sub-pubescent: leaves ternate; leafets lance-oblong: spikes oblong: bracts broad-cordate, long-acuminate: legumes round, nerved, very rugose. 1—2 f. S—C.

eglandulosa, (2) (W. p. J. ♃.) pubescent, without glands: leaves ternate, lance-oblong: spikes oblong: bracts broad-lanceolate, long acuminate, and with the calyx villose. S—C.

multijuga, E. (p. J.) stem branching: leaves pinnate: leafets numerous, (9—10 pairs,) lance-oblong, obtuse, pubescent: spikes oblong: bracts small, membranaceous, glandless. 1—2 f.

obtusiloba, T. & G. ( ) canescent: branches spreading: leaves 3-rarely 5-foliolate; leafets oblong-obovate, obtuse or slightly emarginate, finely dotted: stipules very minute: racemes 3 times as long as the leaves, oblong, loose, 10—15-flowered: bracts minute, broadly ovate, abruptly acuminate, spreading: calyx very short; the teeth ovate, nearly equal, obtuse: vexillum roundish. Texas.

campestris, N. (J.) densely canescently hirsute, with short white appressed hairs: leaves 5-foliolate, the uppermost sometimes 3-foliolate; leafets linear and oblong-linear, rather obtuse, nearly glabrous above: peduncles elongated: spikes interrupted: bracts 3-flowered, broadly ovate, acuminate: lower tooth of the calyx elongated. 1—2 f. Arkansas, Texas.

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(1) hebysaroides, M? (2) Melilotus psoraloides, N.

linearifolia, T. & G. ( ) slightly pubescent with appressed hairs: stem tall, slender, divaricately branched: leaves 3-foliolate, on short petioles; leafets narrowly linear, elongated, mucronate, the upper surface dotted with black glands: stipules minute, subulate, deciduous: peduncles filiform: racemes loose, few-flowered, much longer than the leaves: calyx glandular, the teeth lanceolate, acute, the lower one elongated. Arkansas.

scabra, N. ( ) much branched, somewhat hirsute when young: leaves 3-foliolate, glandular; leafets all sessile, narrowly linear, apiculate: stipules minute, deciduous: racemes few-flowered, on short peduncles: calyx glandular, the teeth obtuse. On the Wallawallah.

digitata, N. (M.) canescent, diffusely branched: leaves 5-foliolate; leafets cuneate-oblong, and oblong-linear, with an abrupt rigid point, minutely-dotted, stipules lanceolate, reflexed: spikes elongated, interrupted, the clusters 3–6-flowered: flowers sessile: bracts obcordate or reniform: calyx villous; segments ovate, acuminate, the lowest one produced. Arkansas.

simplex, N. (p-b.) grayish-pubescent, obscurely glandular, erect: stem simple: leaves 3-foliolate; leafets lanceolate, acute, rugosely veined, mucronate: peduncles very long: spikes oblong, many-flowered: bracts linear-lanceolate, acuminate: teeth of the calyx oblong-triangular, the lowest one longest and acuminate: legumes nearly orbicular, with strong transverse wrinkles. 1—3 f. Arkansas, Texas.

rhombifolia, T. & G. (p.) sparingly pubescent: leaves 3-foliolate: leafets rhombic-ovate, shorter than the petioles: peduncles longer than the leaves, at length recurved: spikes capitate, few-flowered: bracts ovate, acuminate: teeth of the calyx lanceolate, the lowest one longest. Texas.

orbicularis, Lindl. (J. Ju. p. r.) pubescent, the hairs mixed with small, clavate, truncate glands: stem prostrate and creeping: leaves 3-foliolate, on very long petioles; leafets roundish-oval: peduncles as long as the leaves: spikes capitate: bracts and calyx very hirsute: lowest tooth of the calyx nearly as long as the corolla. California.

cryptocarpa, T. & G. ( ) stem somewhat divaricately branched, canescently hairy with an appressed pubescence: leaves 5-foliolate; leafets elliptical-oblong, rather obtuse, mucronate, about as long as the petiole, punctate: stipules subulate: peduncles longer than the leaves: spikes ovate, compact: bracts lanceolate, cuspidate, shorter than the flower: calyx conspicuously glandular, large, entirely covering the ovate nearly glabrous scarcely pointed legume: teeth triangular-lanceolate, acuminate, nearly equal, the 2 upper ones united to the middle. 1—2 f. Arkansas. Texas.

macrostachya, Dc. (p.) whole plant pubescent: stem erect: leaves 3-foliolate: leafets ovate, mucronate: petioles glandularly scabrous: peduncles 4 times as long as the leaves: spikes cylindrical-oblong: the rachis, bracts and calyx very hirsute: lowest tooth of the calyx nearly as long as the corolla. 3 f. Californa.

5—1. Psycho'tria. 57. Cinc. ton. feb.

Southern.

lanceolata, N. (♄.) branches and leaves reddish-hairy beneath: leaves lanceolate, acuminate at both ends: stipules clasping, roundish, caducous: corymb terminal, 3-forked at the base. Florida.

4—1. Pte'lea. 94. Xant. aro. sti. sto.

trifoliata, (W. g-w. J. ♄.) leaves ternate: flowers panicled, dioecious. Var. *pentaphylla*, leaves quinate. Var. *pubescens*, leaves pubescent. 6—8 f. S. Mch. S—C.

Southern.

baldwinii, T. & G. ( ) leaves very small, glabrous: leafets sessile, oval, obtuse, the terminal ones cuneiform at the base: flowers tetrandrous: styles none. Florida.

Psychotria. Gr. *psuchos*, cool, *otruno*, to excite, in allusion to its properties.

Ptelea. Gr. *ptelea*, elm, the fruit of this genus having a resemblance to that of the elm.

21—1. PTE'RIS. 5. Fili. sec-stim.

aqualina, (common brake. O. Ju. ♃.) frond pinnate, 3-parted: barren branches doubly pinnate, with leafets lance-linear, obtuse-pinnatifid, toothed: fertile branches pinnate, with leafets pinnatifid; divisions acutish, all ciliate. *S.* Mch.

atropurpurea, (rock break. O. Ju. ♃.) frond pinnate: lower leafets lanceolate, obtuse, ternate or pinnate; at the base obtusely truncate or sub-cordate. Var. *venosa*, leafets veined beneath: stipe angled. Var. *punctata*, leafets punctate beneath: stipe terete. In ripening, the marginal involucre unrolls, and the capsules on opposite sides meet: so that it exhibits the generic character of the Acrostichum. Stipe dark-purple. 3—10 i. *S.* Mch.

gracilis, Mx. (Ju. ♃.) frond pinnate: leafets lanceolate, obtuse, alternate, sessile; lower ones pinnatifid; fertile ones entire: barren ones crenate, round-obtuse. 4 i. Canada. Mch.

caudata, Jn. (Au. ♃.) frond 3-parted, pinnate: barren branches doubly pinnate: leafets linear, elongated, obtuse, entire: lower ones doubly pinnatifid: fertile branches pinnate; leafets remotish below, at the base pinnatifid-toothed. *S.* P.

Southern.

pedata, W. (Ju. ♃.) frond deeply 5-lobed-palmate: lobes pinnatifid; divisions lance-linear, acute. 6 i.

17—2. PTEROCAU'LON. 55. Inul. exp. ton.

Southern.

pycnostachya, Mx. (1) (black-root. w. Au. ♃.) stem winged: leaves lanceolate, tomentose beneath, nearly entire: spike cylindric, dense.

10—1. PTEROSPO'RA. 51. Pyro. h. bit.-ton. diu. sto.

andromeda, N. (2) (albany beech drops. r-y. Ju. [illegible]) scape purple, very tall, bearing a many-flowered raceme: flowers lateral and terminal, nodding, bracted: peduncles filiform, longer than the flowers: lanceolate scales below, none above. 1—3 f. T. Near Kingston, U. C. Mch.

5—1. PULMONA'RIA. 43. Bora. ton. exp.

virginica, (W. b. M. ♃.) smooth: stem erect: calyx much shorter than the tube of the corol: radical leaves oblong-obovate, obtuse; cauline ones narrower. S. P. T. C.

paniculata, A. (b-w. J.) sub-hirsute, erect: leaves ovate-oblong, acuminate: flowers panicled: calyx short, 5-parted. Hudson's Bay.

alpina, T. (W. b. ♃.) nearly glabrous: stem simple, assurgent: leaves spatulate-ovate; lower ones acute; upper ones acuminate, sub-pilose above, minutely ciliate on the margin: flowers in terminal fascicles, sub-sessile: divisions of the calyx oblong, obtusish, ciliate, about half the length of the corol. 6 i.

oblongifolia, N. (b. ♃.) sub-glabrous: stem simple, erect: leaves lance-oblong, obtusish: upper ones acute: flowers tubular-campanulate, panicled, pedicelled: calyx abbreviated; divisions linear, acute, ciliate. R.

Exotic.

officinalis, (lungwort. b. M. ♃.) radical leaves heart-ovate, hirsute: flowers racemed.

Pteris. Gr. *pteron*, or *pterux*, a wing, from the appearance of the frond resembling a wing.

Pterocaulon. Gr. *pteron*, a wing, and *kaulos*, a stem.

Pterospora. Gr. *pteron*, a wing, and *spora*, a seed.

Pulmonaria. Lat. *pulmones*, the lungs, from its supposed medical qualities.

(1) Conyza, Mx. Gnaphalium, undulatum, Wr. (2) Monotropa procera, 2d ed. This plant was discovered near Albany, in the summer of 1817, by Dr. Edwin James. He considered it a Monotropa, and I published it as described by Dr. Torrey, in the second edition of this work, under the name M. *procera*. Certainly the Monotropa, Hypopithys and Pterospora, ought to be united in one genus, with some extension of the generic description.

Southern.

lanceolata, Ph. (1) (W. b. w. ♃.) glabrous, erect: radical leaves very long-petioled, lanceolate: cauline ones linear oblong: flowers sub-panicled: calyx short.

ciliata, J. (W. b.) glabrous, erect: leaves lanceolate, attenuate at each end, ciliate on the margin: flowers fascicle-panicled, pedicelled: corol tubular-bellform: calyx short, 5-parted; divisions ovate, obtuse. 1 f.

Pulmonaria, LITHOSPERMUM.

11—1. PU'NICA. 92. Rosa. ton. aro.

Exotic.

grana'tum, (pomegranate. ♄.) leaves lanceolate: stem woody.

11—1. PURSH'IA. 92. Rosa. h. ton+. aro.

tridentata, Dc. (2) (♄.) branches erect: branchlets numerous, short: leaves in fascicles, simple, 3-toothed, white beneath: flowers terminal, or solitary. R.

Purshia, ONOSMODIUM.

13—1. PYCNAN'THEMUM. 42. Labi. car. ton. aro. con.

1. *Stamens exsert.*

inca'num, (3) (wild basil, mountain mint. O. w. r. Ju. ♃.) leaves oblong-ovate, acute, sub-serrate, white downy: flowers in compound heads, lateral ones peduncled: bracts setaceous. 1—5 f. S.

aristatum, Mx. (4) (W. w. Au. ♃.) leaves lance-ovate, sub-serrate, short-petioled, somewhat hoary: heads sessile, terminal: bracts awned. 1—3 f. S. T. B. C. N.

linifolium, Ph. (5) (virginian thyme. W. w. Ju. ♃.) glabrous: leaves linear, 3-nerved, entire, punctate, acute: heads terminal, sub-corymbed: bracts short awned. 1—2 f. S. P. C. N. T.

virginicum, (6) (narrow-leaf virginian thyme. O. w. J. ♃.) pubescent: leaves sessile, lance-linear, entire, punctate: heads terminal, corymbed: bracts acuminate. 12—18 i. S. T. P. Mass.

2. *Stamens inclosed.*

muticum, Mx. (W. w. Ju. ♃.) leaves lance-ovate, sub-dentate, ribbed, sub-glabrous: heads terminal: bracts lanceolate, acutish. 18—24 i. S. P. Y. C. K. M.

Southern.

montanum, Mx. (Ap. p. ♃.) leaves lance-oval, serrate, sub-sessile: heads sessile: bracts ciliate, acuminate: calyx erect with short teeth. 1 f.

monardellum, Mx. (A. w-r. Ju. ♃.) pubescent: leaves abruptly petioled, sub-cordate oval, serrate: bracts large, colored, ciliate: calyx bearded at the summit. 2—3 f.

nudum, N. (A.) very glabrous: stem simple: leaves oblong-ovate, entire, sessile: heads pedicelled, few-flowered, naked: stamens exsert. 2 f.

pilosum, N. (W. J.) leaves sessile, lanceolate, tomentose beneath, obsoletely toothed: heads large, terminal: lance-ovate bracts and calyx, hoary-tomentose. 18—24 i. K.

loomisii, N. (r-w. ♃.) flowers cymed, many-bracted: bracts lanceolate, acuminate, hoary: leaves petioled ovate, sub serrate, acute, short, glabrous above. teeth of the calyx abbreviated, acuminate, apex pilose: flowers maculate.

Punica. Lat. *punicus*, Carthaginian: because it first came from the north of Africa.
Purshia. In honor of Frederick Pursh, who wrote the North American Flora.
Pycanthemum. Gr. *puknos*, dense, and *anthos*, flower; to express the dense inflorescence.

(1) marginata, N. (2) Tigarea tridentata, Ph. (3) Clinopodium, L. (4) Nepeta virginica, L. (5) virginicum, P. Brachystemum virginicum, Mx. linifolium, W. Thymus virginicus, L. Origanum flexuosum, W. (6) Brachystemum, Mx. Origanum clinopodioides, Wr.

setosum, N. (1) (♃.) slightly pubescent: leaves ovate, acute, sub-serrate, scarcely petioled: branches fastigiate: little heads terminal, many bracted: bracts subulate-setaceous: teeth of the calyx acuminate.

17—2. Pyre′thrum. 55. Heli. s. ole+.

inodorum, H. ( ) stem diffuse, branching: leaves pinnate, glabrous; leafets linear-filiform, 2 to 3-parted: little crown of the achenium very entire. A. Lake Huron.

Pyrethrum, CHRYSANTHEMUM.

10—1. Py′rola. 51. Pyro. h. bit-ton. diu. sto. *scro.*

rotundifolia, (shin-leaf, pear-leaf wintergreen. O. w. J. ♃.) style declined: leaves rounded or broad-oval, obsoletely serrulate, sub-coriaceous, shining; petiole about as long as the lamina: scape many-flowered; flowers bracted. 6—12 i. *S.* Mch.
elliptica, N. (white winter-green. W. w. J. ♃.) style declined: leaves membranaceous, oblong-oval or ovate, plaited-serrate, abruptly acute: lamina much longer than the petiole: scape naked, or having a single scale: bracts subulate: calyx 5-toothed. 6—10 i. P. F. N. Mch.
asarifolia, Mx. (2) (g-w. Ju. ♃.) style declined; leaves sub-reniform, generally emarginate, coriaceous; lamina shorter than the petiole: scape sometimes convolute. 6—8 i. T. P. B. N. Canada.
dentata, S. (W.) style declined: leaves obovate or oval, veined, remotely and obtusely toothed: scape straight, obscurely angular, nearly naked. 6 i.
picta, S. (W.) style declined: leaves ovate, sub-serrate, rather fleshy, with large branching veins and whitish spots: flowers secund?
aphylla, S. (W.) style declined: scape and stalk leafless, scaly: scales lanceolate, membranaceous: scape angular. P. W. Plainfield, Mass.
minor, (W. w-r. Ju. ♃.) style straight: leaves round-oval, serrulate: scape sub-naked: spike with flowers reversed. C. D. N.
secunda, (one-sided shin-leaf. O. g-w. Ju. ♃.) style straight: leaves round-ovate, acute, serrate: raceme with 1-sided flowers. 6—8 i. Mch.
uniflora, (J. ♃.) style straight: leaves sub-orbicular, crenate-serrate: scape 1-flowered. T. B. N. D. Canada. Mch.
occidentalis, Don. ( ) leaves sub-rotund, membranaceous, obsoletely denticulate, twice as long as the simple petiole: raceme few-flowered: divisions of the calyx oblong, obtuse: stigma with a 5-lobed disk. A.
bracteata, H. ( ) leaves broad-ovate, acute, very entire or very smoothly crenate, coriaceous, acute, shining: scape somewhat two-scaled: raceme bracted: bracts lanceolate, acuminate longer than the flower: segments of the calyx attenuate longer than the lower bud. A.

17—1. Pyrroco′ma. 51. Eric. f. sed. nar.

carthamoides, Doug. ( ) stem simple, erect, striate, pubescent: leaves lanceolate, acute, punctate; lower ones long-petioled; upper ones sessile: flowers terminal; florets numerous, small. 1 f. A.

Pyrola, CHIMAPHILA.

11—5. Py′rus. 92. Poma. b. r. h. ton. f. ref. lax.

coronaria, (3) (crab apple. O. w-r. M. ♄.) leaves broad-oval, at the base rounded, sub-angled or sub-lobed, serrated, smooth: peduncles corymbed. Flowers sweet scented. *S.* Mch.
angustifolia, A. (M. ♄.) leaves lance-oblong, at the base acute, slightly crenate-toothed, shining: peduncles corymbed. Fruit very small. *S.* P. Y. Florida.

Pyrethrum. Gr. *purethron*, *pur* (fire): from its burning quality.
Pyrola. Lat. *pyrus*, a pear, from its pear-shaped leaf.
Pyrrocoma. Gr. *purros*, red, or reddish-yellow, *kome*, hairs, from the color of the egret.
Pyrus. Lat. *pyrus*, pear, from the Celtic *peren*.
(1) aristatum, Ph. (2) chlorantha, N. (3) Malus, Mx.

rivularis, Doug. (   ) leaves ovate, entire, somewhat 3-lobed-angled, sub-acuminate, acutely serrate, pubescent beneath: corymb terminal, simple: calyx hirsute very densely tomentose within: styles (3—4) attached at the base. R. A.

americana, Dc. (mountain ash. A. w. M. ♄.) leaves pinnate: leafets acute, somewhat equally serrate, glabrous; general petiole glabrous. Berries purple. 10—20 f. W. N. D. Wachusett Mt. Sorbus canadensis of 7th edition. Mch.

microcarpa, Dc. (A. J. ♄.) leaves pinnate: leafets acuminate, unequally gash-serrate, glabrous; serratures setaceous-mucronate; common petiole glabrous. Berries scarlet. S. Sorbus microcarpa of 7th edition.

melanocarpa, W. (black choak-berry. O. w. M. ♄.) leaves obovate-oblong, acuminate, mucronate, serrate, glabrous beneath: midrib glandular above: flowers corymbed: calyx glabrous. Damp. *Aronia* melanocarpa of 7th edition.

arbutifolia, L. (red choak-berry. O. w-r. M. ♄.) leaves lance-obovate, crenate-toothed, downy beneath, with the midrib glandular above: flowers corymbed: calyx downy. Damp. 2—4 f. Leaves sometimes glabrous. *Aronia* arbutifolia of 7th edition.

Exotic.

communis, (pear. w-r. M. ♄.) leaves ovate, serrate, (rarely entire:) peduncles corymbed. Var. *pyraster*, (dwarf) fruit very small and acid. Var. *falerna*, (burgamot) fruit orbicular, apple-form. Var. *pompeiana*, (good christian.) Var. *favonia*, (musk pear.) Var. *liquescens*, (butter pear.) Var. *refusans*, (russet pear.) Var. *pyramidalis*. (leg pear.) These five last varieties are distinguished more by their flavor than by any external marks.

malus, (apple. w-r. M. ♄.) flowers in sessile umbels: leaves ovate-oblong, acuminate, serrate, glabrous: claws of the petals shorter than the calyx: styles glabrous. Var. *sylvestris*, (wild apple) leaves ovate, serrate: fruit small, austere. Var. *prasomila*, (pippin.) Var. *castanea*, (chesnut apple.) Var. *apiosa*, (ape apple) fruit small, round, red, pleasant tasted. Var. *cavillae*, (cornered apple) leaves broad-ovate, downy beneath: fruit angled.

cydonia, (quince. w. J. ♄.) flowers solitary: fruit tomentose: leaves ovate, entire. Var. *lusitanica*, leaves very broad.

prunifolia, (siberian crab. w. r. M. ♄.) umbels sessile: pedicels pubescent: styles woolly at the base: leaves ovate, acuminate. 12—15 f.

Remark. The varieties into which the above species have been extended by culture, are very numerous. I have given those only which are set down by Persoon, as the most distinct.

Pyrus, Aronia.

Pyxidanthera, Diapensia.

Q.

19—12. QUER'CUS. 99. Cupu. f. ole. w. tim. b. tan.

1. *Fruit sub-sessile: leaves mucronate, with a bristle-form awn, entire.*

Fructification biennial.

phellos, (willow oak. W. M. ♄.) leaves lance-linear, tapering to both ends, entire, glabrous, mucronate: cupule saucer-form; acorn roundish. Var. *humilis*, low and straggling: leaves shorter. 30—60 f. S. P. Y. S—C.

imbricaria, Mx. (shingle oak, laurel oak. W. M. ♄.) leaves oblong, acute at both ends, mucronate, entire, shining, pubescent beneath: cupule saucer-form; scales broad-ovate; acorn sub-globose. 40—50 f. S. P. Mch.

2. *Fruit sub-sessile: leaves mucronate, with a bristle-form awn, toothed or lobed.*

Fructification biennial.

heterophylla, Mx. (burrier's oak. M. ♄.) leaves long petioled, lance-ovate or oblong,

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Quercus. Celtic *quer*, excellent, and *cuez*, tree; both on account of its beauty and because it bore the holy misletoe.

entire or unequally coarse-toothed: cupule hemispheric; acorn sub-globose. Pursh says there is but one individual of this species known in the world, which is now growing on the Bartram plantation, near Philadelphia.

agrifolia, W. (W. ♄.) leaves roundish-ovate, sub-cordate, glabrous on both sides, remotely spinose-toothed: cupule hemispheric, scales lax; acorn ovate-acute.

triloba, W. (1) (downy black oak. W. M. ♄.) leaves wedge-oblong, acute at the base, sub-3-lobed at the apex; lobes equal in breadth, mucronate; middle lobe longest, downy beneath: cupule saucer-form; acorn compressed, globose. 20—40 f. *S.* P. Y. S—C.

aquatica, W. (2) (water oak. M. ♄.) leaves wedge-ovate, glabrous, very entire; apex obscurely 3-lobed, with the intermediate lobe longest: cupule hemispheric; acorn sub-globose. Leaves very variable. 30—40 f. *S.* P. Y. S—C.

nigra, (3) (barren oak, black-jack. W. M. ♄.) leaves coriaceous, wedge-form, sub-cordate at the base, spread and retuse-3-lobed at the apex; in the young state it is mucronate, glabrous above, mealy-rust beneath: cupule turbinate: scales obtuse, scarious; acorn short-ovate. Small. *S.* P. New Jersey. Florida.

tinctoria, Bart. (4) (quercitron oak, black oak. O. M. ♄.) leaves obovate, oblong, a little sinuate, pubescent beneath; lobes oblong, obtuse, obtusely denticulate, setaceous-mucronate: cupule saucer-form; acorn depressed-globose. 60—70 f. *S.* Mch.

discolor, A. (5) (false red oak. O. M. ♄.) leaves oblong, sinuate-pinnatifid, pubescent beneath and on both sides when young; lobes oblong, toothed, setaceous-mucronate: cupule turbinate; acorn ovate. 60—70 f. *S.* S—C.

coccinea, Wm. (scarlet oak, ink-ball oak. O. M. ♄.) leaves long-petioled, oblong, deeply sinuate, glabrous; lobes divaricate, toothed, acute, setaceous-mucronate: cupule turbinate, marked with scales; acorn short, ovate. This, the last species, and the *rubra*, are usually called the red oak by farmers: and it requires some attention for the botanist to distinguish them. The leaves of this species become reddish, and even scarlet, in autumn. Produces brownish-purple nut-galls. 70—80 f. *S.*

ambigua, Mx. (gray oak. M. ♄.) leaves sinuate, glabrous, acute at the base; lobes sub-acute: cupule nearly saucer-form; acorn turgid, ovate. Intermediate between the preceding and the following one; and probably only a hybrid. Ph. N.

rubra, (red oak. O. M. ♄.) leaves long-petioled, oblong, glabrous, obtusely sinuate; lobes acutish, toothed, setaceous-mucronate: cupule saucer-form, smoothish; acorn sub-ovate, turgid. 70—80 f. *S.* Mch.

catesbaei, Mx. (barren scrub oak. M. ♄.) leaves short-petioled, wedge-form at the base, oblong, coriaceous, glabrous, deeply sinuate; lobes divaricate-acute, mucronate: cupule turbinate, large; scales obtuse; marginal ones inflexed; acorn ovate. 15—30 f. *S.* S—C.

falcata, Mx. (6) (spanish oak. W. M. ♄.) leaves long-petioled at the base, obtuse, downy beneath, 3-lobed or sinuate; lobes sub-falcate, setaceous-mucronate, terminal one elongated: cupule bowl-form; acorn globose. 70—80 f. *S.* P. Y. Florida. S—C.

palustris, W. (pin oak. O. M. ♄.) leaves long-petioled, oblong, deeply sinuate, glabrous; axils of the veins villose beneath; lobes divaricate, toothed, acute, setaceous-mucronate: cupule saucer-form, smooth; acorn sub-globose. Generally grows in wet places. The small limbs along the body of the tree die as the tree advances, which gives it the appearance of having pins or trenails driven into it. 40—60 f. *S.* Mch.

ilicifolia, W. (7) (shrub-oak. O. M. ♄.) leaves long-petioled, wedge-obovate, 4 or 5-lobed, margin entire, whitish-downy beneath; lobes setaceous-mucronate: cupules sub-turbinate; acorn sub-globose, striate: nucleus yellow. 2—8 f. *S.*

3. *Fruit peduncled: leaves without awns, lobed.* Fructification annual.

obtusiloba, Mx. (8) (iron oak, post oak. W. M. ♄.) leaves oblong, sinuate, wedge-form at the base, pubescent beneath; lobes obtuse, upper one dilated, 2-lobed, (often the lobes are so arranged in the young plants as to form a cross-form or stellate leaf;) cupule hemispheric: acorn oval. 30—50 f. *S.* T. C. P. F. D. S—C.

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(1) cuneata, Wm. (2) nigra, L. not W. uliginosa, Wm. (3) ferruginea, Mx.
(4) tinctoria-angulosa, Mx. (5) tinctoria-sinuosa, Mx. (6) elongata, W.
(7) banisteri, Mx. (8) stellata, W.

macrocarpa, Mx. (over-cup oak. W. M. ♄.) leaves downy beneath, deeply lyrate-sinuate lobed; lobes obtuse repand, upper ones dilated: cupule bowl-form, upper scales setose: acorn turgid, ovate, large. A large tree. S. P. Mch.

olivæformis, Mx. (mossy-cup oak. W. M. ♄.) leaves oblong, glabrous, glaucous beneath, deeply and unequally sinuate-pinnatifid: cupule deeply bowl-form, fringed above: acorn oval ovate. Large tree. S. P. Y.

alba, (white oak. O. M. ♄.) leaves oblong, sinuate-pinnatifid, pubescent beneath; lobes obtuse, entire, narrowed at their bases, particularly on full-grown trees: fruit peduncled; cupule somewhat bowl-form, tuburcled flattened at the base; acorn ovate. The most useful timber-tree in America. 70—80 f. S. Mch. tim+.

4. *Fruit peduncled: leaves without awns, toothed, not lobed.* Fructification annual.

prinos, W. (1) (swamp oak, swamp chesnut oak. M. ♄.) leaves long-petioled, obovate, acute, pubescent beneath, coarsely toothed; teeth about equal, spread, callous at the apex: cupule bowl-form, tapering at the base; acorn ovate, large, sweet tasted. Large tree. 70—80 f. S. P.

chin'quapin, Mx. (2) (dwarf chesnut oak, chinquapin. O. M. ♄.) leaves short-petioled, obovate, at the base acute, coarsely toothed, glaucous beneath; teeth nearly equal, spread callous at the apex: cupule hemispherical; acorn ovate. A low shrub. 3—4 f. S. P. N.

montana, W. (3) (rock oak, chesnut oak, mountain oak. W. A. M. ♄.) leaves moderately petioled, broad obovate, oblong, white-downy beneath, shining above; coarsely toothed, at the base obtuse, oblique; teeth sub-equal very obtuse, short: fruit in pairs, short-peduncled; cupule hemispheric; scales rugose, tubercled; acorn ovate. 30—40 f. S. P. C. T. F. N.

castanea, W. (4) (yellow oak. W. M. ♄.) leaves long petioled, lance-oblong, obtuse at the base, acuminate, downy beneath, coarsely toothed; teeth sub-equal, spread, acute, callous at the apex: cupule hemispheric; acorn globular-ovate. Large tree. The bark is used for dyeing yellow. 60—70 f. S. P. T. Catskill.

bicolor, (5) (swamp white oak. M. ♄.) leaves short-petioled, oblong-obovate, white-downy beneath, coarsely toothed, entire at the base; teeth unequal, spread, acutish, callous at the apex: fruit in pairs, long peduncled: the peduncle terminating in a bristle: cupule hemispheric; acorn oblong-ovate. Var. *mollis*, N. leaves toothed, sub-ferruginous and soft-pubescent beneath. 60—70 f. S. T. B. P. C. F. N. Mch.

Southern.

maritima, W. (L. Ap. ♄.) leaves perennial, coriaceous, lanceolate, entire, glabrous, tapering at the base, acute at the apex, mucronate: cupule peduncled; acorn oval, mucronate. 4—10 f.

pu'mila, Wr. (6) (W. L. Ap. ♄.) leaves lance-oblong, sub-undulate, obtuse at the base, acute, mucronate at the apex, glabrous above, tomentose beneath; acorn sub-globose. 2 f.

myrtifolia, W. (♄.) leaves perennial, coriaceous, small, oblong-ovate, unawned, acute at each end, glabrous, shining and reticulate above, revolute at the margin.

virens, W. (7) (live oak. O. M. ♄.) leaves perennial, coriaceous, oblong-oval, entire, revolute at the margin, at the base obtuse, at the apex acute, awnless, stellate-pubescent beneath: fruit pedicelled; cupule turbinate; scales abbreviated; acorn oblong. 40—60 f. Florida. S—C.

cinerea, Mx. (W. Ap. ♄.) leaves perenial, coriaceous, lance-oblong, entire, sub-revolute at the margin, mucronate at the summit, stellate, tomentose beneath: fruit sessile; acorn sub-globose. 20 f. S—C.

laurifolia, Mx. (Ap. ♄.) leaves nearly perennial, sessile, lance-oblong, sub-acute, tapering at the base, entire, glabrous on both sides: acorn sub-ovate. Var. *obtusa*, leaves obtuse at the apex. 40—50 f. S—C.

hemispherica, W. (M. ♄.) leaves perennial, lance-oblong, undivided, 3-lobed and sinuate; lobes mucronate; glabrous on both sides. Probably a variety of the aquatica. Ph.

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(1) prinus-palustris, Mx. (2) prinoides, W. (3) prinus monticola, Mx. (4) prinus acuminata, Mx. (5) prinus tomentosa and discolor, Mx. (6) sericea, W. (7) sempervirens, Wr.

nana, W. (M. ♄.) leaves wedge-form, glabrous, 3-lobed at the summit, sub-sinuate at the base; lobes divaricate, mucronate; middle one largest; axils of the veins beneath pubescent: acorn ovate, sub-globose.

lyrata, Wr. (Ap. ♄.) leaves oblong, sinuate glabrous; lobes oblong, sub-acute; upper ones broad, angled: cupule as long as the globose nut; acorn nearly covered. 60—70 f.

michauxii, N. (Ap. ♄.) leaves petioled, obovate, obtuse at the base, unequally toothed, sinuate, tomentose beneath: fruit generally in pairs; acorn very large, ovate. 50—60 f.

undulata, T. (W. ♄.) fruticose, very branching: leaves short-petioled, oblong, obtusish, coriaceous, repand-toothed, undulate, equal at the base, pulverulent-tomentose beneath, shining above: fruit solitary or in pairs, sessile, depressed hemispheric; cupule scales appressed. A small straggling shrub.

Queria, *Anychia*, PARONYCHIA.

R.

12—12. RANUNCU'LUS. 61. Ranu. g-r. acr-poi. h. epis.

1. *Leaves simple.*

lingualis, W. (great spear-wort. y. Ju. ♃.) hairs close-pressed: leaves lanceolate, sub-denticulate, acuminate, sub-sessile: stem erect, many-flowered. S. P. T.

flammulus, (spear-wort. W. y. Ju. ♃.) glabrous stem declined: leaves narrow lanceolate, acute, entire and denticulate: lower ones petioled: peduncles terminal, axillary, 1-flowered: calyx sub-reflexed. Flowers small. Damp. 1—3 f. S. T. Y. C. P. B. H. F. N.

pusillus, Ph. (1) (W. y. Ju. ♃.) glabrous: leaves petioled: lower ones ovate, toothed; upper ones lance-linear, toothed at the apex; the very uppermost ones linear, bract-like: peduncles alternate, solitary, 1-flowered. 6—12 i. S. Y. N. D. Peekskill. New Orleans.

reptans L. (W. w-y. J. ♃.) glabrous, small: stem filiform, creeping, geniculate, with the joints 1-flowered: flowers axillary, peduncled: leaves linear-subulate, obtuse. Var. *ovalis*, Bw. leaves oval and lanceolate: petals 5—8. P. V. T. B. C. N. D. Mch.

cymbalarius, (w-y. J. ♃.) glabrous, very small, filiform, creeping, rooting at the joints: leaves heart-reniform, crenate-dentate: radical peduncles solitary, mostly 2-flowered: petals spatulate: fruit oblong. N. B. R. Hudson's Bay. Onondaga.

glaberrimus, Hk. (W.) leaves all petioled; radical ones roundish, entire or coarsely toothed; cauline ones somewhat wedge-form, 3-cleft: calyx spreading, half as long as the petal: fruit globose. Rocky Mountains in the highest parts.

2. *Leaves divided.*

abortivus, (2) (O. y. M. ♃.) glabrous: stem striate, naked below: radical leaves heart-reniform, obtusely crenate: cauline ones petioled, ternate, angled; upper ones sessile: branches about 3-flowered. Var. *sessilis*, (3) has sessile, cauline leaves and glabrous shining carpels. 9—15 i. S. Mch.

sceleratus, (celery crowfoot. O. y. J. ♃.) glabrous: lower leaves palmate; upper ones sessile, digitate: fruit oblong. Wet. 12—18 i. S. Mch.

auricomus, W. (y. M. ♃.) pubescent: radical leaves reniform, 3-parted, gash-crenate; cauline ones sessile, digitate, linear: stem many-flowered: calyx colored, spreading.

pygmae'us, Ph. (y. J. ♃.) small, glabrous: radical leaves sub-cordate-reniform, gash-toothed: cauline ones sessile, digitate: divisions linear, very entire: stem few-flowered: petals oblong, equal to the calyx. R. Labrador.

pennsyl'vanicus, (W. y. Ju. ♃.) stem pilose, erect, branching. leaves ternate, 3-cleft, gashed, hairy beneath: peduncles terete: calyx reflexed: petals about equalling the calyx: styles of the fruit straight. 1—2 f. S. C. Y. P. N. Canada. Mch.

Ranunculus. Diminutive of *rana*, a frog, from some of the species of growing in fenny places.

(1) flammula, Wr. (2) nitidus, Pt. (3) nitidus of Ph., but he says it may be a variety of the abortivus.

fascicularis, M. (O. y. M. ♃.) pubescent: upper leaves sub-linear; radical ones ternate or sub-pinnate; leafets 3-lobed, the terminal one deeply 3-cleft: calyx spreading, hairy underneath: petals longer than the calyx: root fascicled. 6—10 i. S. Is this distinct from the *revens?* Mch.

bulbosus, (W. y. M. ♃.) very hirsute: leaves ternate, 3-cleft, gashed and toothed: stem erect, many-flowered: peduncles sulcate: calyx reflexed: root bulbous: carpels smooth. 1—2 f. T. P. Y. B. C. N. Canada, Peekskill.

hirsutus, C. (1) (pale butter cup. y. Ju. ♃.) hirsute: leaves ternate: stem erect, many-flowered: peduncles sulcate: calyx reflexed, acuminate: fruit globose; carpels tubercled: root fibrous. Damp. W. T. P. V. Peekskill.

rep'ens, (W. y. M. ♃.) sub-pubescent: leaves ternate: leafets wedge-form, gash-toothed, 3-lobed: main stem prostrate: flowering ones erect: peduncles furrowed: calyx spreading. Damp. W. C. P. F. B. O. T. Y. N. Mch.

clintonii, L. C. Beck. (y. M. ♃.) leaves ternate, 3-cleft, hairy, hairs close-pressed; extreme upper leafets lanceolate: stem entirely prostrate, creeping, zigzag: petals obovate, sub-retuse: calyx caducous: carpels compressed, margined: beak hooked. Flowers large, resembling those of the *repens*. In Oneida county, between Rome and Oriskany, near the Erie canal, patches of ground, several yards in extent, are often covered with this species. The flowers are rarely elevated more than 8 or 10 inches above the ground; though the stem creeps more than a yard from the root, sending up leafy flower-bearing shoots. (2)

acris, (crowfoot, butter-cup. O. y. M. ♃.) hairs close-pressed: leaves 3-parted, many-cleft: upper ones linear: peduncles terete: calyx spreading. 1—2 f. Mch.

lanuginosus, W. (W. y. J. ♃.) hirsute: leaves 3-cleft, lobed, toothed, all over silky: peduncles elongated, terete, calyx spreading. S. P. C.

ovalis, R. (W.) pubescent: radical leaves cordate, truncate at the base, oval, entire, rarely split, crenate; cauline ones sub-sessile, digitate, lobes of all linear: stem erect, many-flowered: calyx pubescent, equalling the corol: fruit globose. R.

affinis, Hk. (W.) radical leaves mostly pedate-many-cleft, petioled; cauline ones sub-sessile, digitate: lobes of all linear: stem erect, 1—2-flowered (or more) with the calyx and germ mostly hairy: fruit oblong-cylindric, with the beak recurved. Canada. R. Hudson's Bay.

rhomboideus, Goldie. (W.) hirsute: radical leaves rhomboid, undivided, serrate; cauline one palmate; floral ones deeply divided: calyx spreading, hairy. N. W. Lakes. Canada.

marylandicus. Lk. (w-y. M. ♃.) pubescent: stem simple, sub-naked: radical leaves
ternate; leafets 3-lobed: lobes acute, gashed: calyx reflexed. S. P.

recurvatus, Lk. (W. y-w. J. ♃.) pubescent: leaves 3-lobed, wedge-form at the base,
gashed at the apex, acute: stem many-flowered: calyx and corol recurved; petals
linear. Flowers small. 1—2 f. S. Y. W. T. R. C. N. O. F.

hispidus, Mx. (W. w-y. J. ♃.) very hirsute, erect, somewhat branching: leaves ter-
nate; leafets acutely lobed: stem few-flowered: calyx close-pressed. 1 f. S. P.
O. Canada.

aquat'ilis, W. (3) (water crowfoot. w. Ju. ♃.) stem floating: submersed leaves fili-
formly dissected; immersed ones 3-parted, with cuneiform, dentate lobes: petals
obovate, exceeding the calyx. Var. *heterophyllus*, emersed leaves 3-parted. Var.
capillaceus, leaves petioled, all emersed, and filiformly dissected, R. *fluviatilis*, W.
Var. *cespitosus*, leaves petioled, all immersed, with a nearly orbicular circumscrip-
tion, filiformly dissected; the segments rigidly divergent; base of the petiole broad,
sheathing and auricled. Var. *stagnalis*, leaves sessile, all immersed, filiformly dis-
sected, circinate; segments short: sheaths obscurely auricled: carpels rather
acute, nearly smooth. Beck's *lacustris*, is a variety?

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(1) philonitis, W.

(2) I discovered this plant in the summer of 1824, and published it as Lk's *pros-*
tratus. I furnished Dr. L. C. Beck, and numerous other botanists, with specimens.
Dr. Beck dedicated it to my friend, G. W. Clinton. I acquiesce cheerfully; but
adopt my own description. I am now (1840) convinced that it was undescribed when
I discovered it. It is always *wholly* prostrate, and exceedingly *uniform*.

N. B. Dr. Wright being very sick when this genus went to press, it is not reformed
as it should have been, by Dr. Torry's Flora. A. E.

(3) heterophyllus, Roth.

multifid'us, Ph. (1) (W. y. ♃.) leaves 3-parted, many-cleft; divisions gashed, approximate: stem swimming: leafets of the calyx roundish, a little shorter than the petals. Upper Louisiana. *S.* B. R. O. Mch.

nivalis, W. (A.) leaves 5-lobed, very entire, cauline ones sessile, digitate: stem 1-flowered. R.

lapponicus, (A.) leaves 3-parted, lobed, obtuse: stem nearly naked, 1-flowered. R.

hyperbo'reus, Roth. (A.) leaves deeply 3-lobed; lobes oblong, divaricate: stem filiform, creeping. R.

brevicaulis, Hk. (W.) pubescent: radical leaves all heart-oval, entire: cauline ones crenate, many-cleft, palmate: stem erect, many-flowered, with leaves much shorter: fruit globose: petals 6. N. W. Lakes.

cardiophyllus, Hk. (W.) hirsute: radical leaves round-cordate, deeply emarginate at the base; cauline ones many-cleft, palmate: divisions linear, gash-crenate: calyx spreading, half as long as the corol: fruit oblong. Canada. N. W. Lakes.

eschscholtzii, Hk. (W.) leaves ciliate: radical ones petioled; partitions lobed: stem somewhat 2 flowered: calyx hirsute, shorter than the petals: fruit oblique, ovate, terminating in a short style. R.

pedatifidus, Hk. (W.) leaves fine-hairy; radical ones petioled, palmate or pedate, divided into entire linear lobes: scape nearly naked, exsert, 1-flowered: calyx spreading, sub-villose. Rocky Mts. and east.

arthorhyn'chus, Hk. (W.) close-pressed, hairy: stem erect, slender, ramose and sub-foliaceous above: radical leaves petioled, ternate: leafets linear, many-cleft, white callous at the apex: calyx reflexed: style stiffly straight, longer than the fruit. R.

natans, Dc. ( ) stem procumbent, floating: leaves heart-reniform; lobes approximating, obsoletely crenate behind, and toothed before; divisions of the calyx oval: carpels with straight beaks. Creeping in swamps in Canada.

glacialis, L. (w.) radical leaves petioled, palmately 3-parted or 3-cleft; lobes rather obtuse and thick: stem about 1-flowered: calyx very hirsute: carpels compressed, margined. Greenland.

pallassii, Schlecht. (y.) stem creeping, fistulous: leaves oval or obovate, cuneiform, 3-parted: petals 3: sepals 8: head of carpels spherical; carpels thick, ovate, glabrous, beaked. Arctic America.

limosus, N. (y.) sub-aquatic, procumbent, somewhat hairy: leaves reniform, palmately 5-cleft; the segments 2—3-toothed, or somewhat lobed: the divisions blunt, short and shallow: stem 1—2-flowered: sepals shorter than the rounded petals: carpels scarcely keeled, with a short, nearly straight beak. Rocky Mts.

sabinii, R. Br. (y.) radical leaves on long petioles, 3-parted: lobes elliptical, the lateral ones 2-cleft; cauline ones sessile, 3 parted: the divisions linear: calyx hirsute, nearly equal to the retuse petals. Arctic America.

occidentalis, N. (y.) hirsute with shining, spreading hairs: leaves trifid or 3-parted; segments cuneate and trifid, or incisely toothed: lateral ones often subdivided; the uppermost leaves trifid, with linear, acute segments: stem divaricate, many-flowered: sepals reflexed, half as long as the elliptical oblong petals: carpels smooth, much compressed, with the revolute style nearly their own length. Oregon.

tenellus, N. (y.) leaves somewhat hairy on the upper side: the radical ones on long petioles, cordate, 3—5-cleft: the divisions 2—3-cleft, acute: those of the stem 3-parted or entire: stem slender and somewhat spreading, smooth: flowers minute; carpels much compressed, smooth, with a minute curved style. Oregon.

schlechtendalii, Hk. (y.) pilose with spreading hairs: stem somewhat branching, short: leaves on long petioles, reniform cordate, 3-parted: lobes obovate, 3-cleft, or laciniately divided: sepals pilose, spreading, at length reflexed, shorter than the petals: style as long as the ovary. Rocky Mountains, latitude 52°—55°.

Southern.

hederaceus, (W. Ju. ♃.) stem creeping: leaves sub-reniform, about 3—5-lobed; lobes broad, entire, very obtuse: petals oblong, scarcely longer than the calyx: stamens 5—12: carpels glabrous. Probably introduced.

nitidus, M. (2) (y. Ap. ♃.) leaves 3-parted; segments unequally 3-cleft, lanceolate, gashed, toothed, glabrous: calyx reflexed: petals oval, twice as long as the calyx: carpels with a hooked beak. Procumbent and erect. 1—2 f.

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(1) purshii, Hk. (2) not Wr.

carolinianus, Dc. (y.) stem erect, branched, and with the petioles appressed pubescent. leaves glabrous, 3-cleft or 5-lobed: lobes ovate, somewhat gashed, toothed: calyx glabrous, reflected, a little shorter than the petals.

trachyspermus, E. (y. M.) stem, petiole and leaves villous, with the hair spreading: leaves 3-cleft; lobes acutely gashed: peduncles short, opposite the leaves: carpels tubercled, with the point hooked. 12—15 i. S—C.

muricatus, Dc. (y. Ap. ⊙.) leaves glabrous, petioled, roundish, 3-lobed, coarsely toothed: stem erect or diffuse, peduncles opposite the leaves: calyx spreading: carpels rough-tubercled on both sides, with a straight acuminate point. 12—18 i.

tomentosus, Lk. (y. ♃.) stem ascending, 1 to 2-flowered, very villose, hairs spreading: leaves petioled, tomentose, 3-cleft; upper ones sessile, ovate, entire: calyx very villose, sub-reflexed.

septentrionalis, Lk. (y. ♃.) nearly glabrous. leaves membranaceous, glabrous, ternate; leafets somewhat 3-lobed, gashed, acute: stem and petioles hirsute at the base: peduncles about 2-flowered: calyx reflexed.

echinatus, Vent. (y.) a little glabrous, simple: leaves simple roundish, 3-lobed: petals twice as long as the calyx.

collinus, Br. (1) (W. Ap.) leaves all radical, pubescent, petiole, 3 to 5-cleft: scape villose, 1-flowered, longer than the leaves; calyx persistent: petals oblong-ovate. 1—2 i.

14—2. RAPH'ANUS. 63. Cruc. r. nut. asc.

Exotic.

raphanistrum, (wild radish, charlock. y. Au.) leaves lyrate: siliques terete, jointed, smooth, 1-celled. Before the silique is mature, it is generally 2-celled and not jointed. Naturalized. B. Pittsfield.

sativus, (garden radish. w. J. ⊙.) leaves lyrate: silique terete, torose, 2-celled. There are several varieties of this species—one has a fusiform, another a globose, another a black root.

19—12. RENSSELAE'RIA. (2) 7. Aroi. g-r. acr. d-r. amy.

virginica, Beck. (O. g. J. ♃.) scapes several from the same root: leaves long-petioled, heart-hastate, lobes obtuse: spathe elongated, incurved. [See note, page 89.] Mch.

12—3. RESE'DA. 64. Rese. asc. ope.

Exotic.

odorata, (mignonette. w-y. Ju. ⊙.) leaves entire and 3-lobed: calyx equalling the corol.

micranthus, N. (y.) hairy, dwarf: leaves petiolate, somewhat rhombic-ovate, crenate, some of them 3-parted or 3-cleft: cauline ones sub-sessile, with 3 to 5 linear-oblong divisions: sepals with a broad membranaceous border, as long as the corol. Missouri, Arkansas.

luteola, (dyer's weed. y. Au. ⊙.) leaves lanceolate, undulate, entire; a tooth on each side of the base: calyx 4-cleft: flowers spiked. Naturalized.

5—1. RHAM'NUS. (3) 95. Rham. ast. dye. f. cat.

franguloideus, Mx. (4) (dwarf alder. O. w-g. M. ♄.) unarmed: leaves oval, acuminate, serrulate, pubescent at the nerves beneath: peduncles aggregate, 1-flowered:

Raphanus. Gr. *ra*, quickly, and *phainomai*, to appear, because it grows so quickly.

Rensselaeria. In honor of Gen. Stephen Van Rensselaer of Albany, N. Y.

Reseda. Lat. *resedo*, to appease, from its supposed qualities of allaying inflammation in external bruises.

Rhamnus. Gr. *ramnos*. white thorn; or from Celtic *ram*, a head or tuft of branches.

(1) This is a description given by Prof. L. C. Beck, of a plant found by him in wet prairies in Illinois; but he does not decide whether it is the *collinus* or not.

(2) Lecontia, Cooper. Arum, L. (3) Berchemia. (4) alnifolius, W.

calyx acute: fruit turbinate. Berries black. Pursh calls this the franguloides, after Mx. and gives alnifolius to a species found up the Missouri. *S.*

catharticus, (buckthorn. ♄.) thorns terminal: flowers 4-cleft, dioecious: leaves ovate, serrate. First found in the Highlands by Dr. Barratt. N.

alnifolius, Ph. (1) (W. M. ♄.) unarmed: leaves oval, denticulate, short-acuminate, with a sinus at the base, slightly cordate, pubescent at the nerves beneath: peduncles twice 2-cleft: berries depressed-globose. Berries purple, edible. O. Hudson's Bay.

carolinianus, W. (w. J. ♄.) unarmed: leaves alternate, oval-oblong, sub-entire, ribbed, glabrous: umbels peduncled: flowers all fertile. Berry black, globose. 4—6 f.

lanceolatus, Ph. (W. ♄.) unarmed, shrubby: leaves lanceolate, serrulate, acute at each end, pubescent beneath. Berries black.

minutiflorus, Mx. (L. Oc. ♄.) unarmed: leaves nearly opposite, oval, serrulate: flowers very minute, divisions spiked, alternately sessile on the rachis: style 3-cleft; berries 3-seeded.

Southern.

oleifolius, Hk. (   ) unarmed, erect: leaves coriaceous, evergreen, elliptical-oblong, entire, revolute on the margin, glabrous: flowers pentandrous, in small axillary crowded panicles: petals very minute, stigma obscurely 2-lobed: fruit 2-seeded. N. W. Coast. California.

laurifolius, N. (   ) unarmed, erect: leaves coriaceous, evergreen, elliptical-oblong or oblong, somewhat serrate, the veins approximated: flowers axillary, 2 or 4 together, on pedicels shorter than the calyx, tetrandrous: petals very minute. California.

croceus, N. (   ) low and branching, the branches spinescent at the extremity: leaves coriaceous, evergreen, roundish obovate, nearly glabrous, glandularly denticulate: flowers in axillary clusters, dioecious, tetrandrous, apetalous: styles exserted, distinct above: fruit obovate, 1 to 2-seeded. California.

parvifolius, T. & G. (   ) unarmed: leaves ovate, serrulate, pubescent (when young), acute or emarginate: flowers solitary or 2 to 3 together, axillary, on very short pedicels, tetrandrous: petals minute, 2-lobed, partly surrounding the very short stamens: styles 2, united below, very short and conical. Virginia.

californica, Eschs. (y-g.) branches angular, grayish-tomentose: leaves oval, serrulate, mostly acute, reticulately veined, glabrous on both sides: flowers fasciculate-umbelled; pedicels tomentose, as long as the petioles: calyx 5-cleft: petals 5, scale-like: style 5-cleft: fruit 2-seeded. California.

texensis, T. & G. (   ) much branched and straggling: branches pubescent: leaves ovate or oblong-ovate, somewhat acute, villous pubescent on both sides, denticulate-serrulate; the veins prominent and very oblique: fruit broadly turbinate, 2 to 3-seeded; seeds tumid without a furrow. Texas.

ferrugineus, N. (   ) leaves alternate, oblong-oval, acute, entire: younger ones and calyx ferruginous-tomentose: little umbels from the base of the petiole, sessile: flowers androgynous: stigmas trifid. Florida.

9—3. RHE'UM. 28. Poly. ton. cat. lax.

Exotic.

palmàtum, (rhubarb. J. ♃.) leaves palmate, acuminate. From China.

rhaponticum, (2) (pie rhubarb. W. J. ♃.) leaves heart-ovate, obtuse and acute, smooth; veins sub-pilose beneath, the sinus at the base dilated; petioles furrowed on the upper side, rounded at the edge. Radical leaves very large. 2—4 f. edi.

8—1. RHEX'IA. 90. Mela. ton.

virginica, (meadow beauty, deer-grass. W. p. Ju. ♃.) stem wing-angled: leaves sessile, lance-ovate, ciliate-serrate: corymbs dichotomous. 1—2 f. *S.* B. O. P. T. C. Y. H. F. N. M. S—C.

Rheum. Gr. *reō*, to flow, from its purgative qualities; or from Rha, the Wolga, whence it was first brought.

Rhexia. Gr. *rexis*, a rupture, from its being used in curing wounds.

(1) purshianus, Hk. (2) tartaricum of former editions, but Darlington has shewn that it is this species.

mariana, Mx. (W. w-r. Ju. ♃.) stem and leaves very hirsute: leaves sub-petioled, lance-oval, or lance-linear: calyx smoothish, tubular, long. Var. *purpurea*, leaves narrow-lanceolate or oblong: flowers deep purple. Var. *rubella*, leaves lance-oval or oblong: flowers pale, reddish. 1—2 f. S. Y. C. M. S—C.

ciliosa, Mx. p. Ju. ♃.) stem sub-quadrangular, glabrous: leaves sub-petioled, lance-ovate, serrulate, ciliate, glabrous beneath, somewhat hispid above: flowers involucred. 18 i. S. S—C.

Southern.

serrulata, N. (p. ♃.) stem sub-quadrangular, smooth: leaves small, sub-petioled, roundish-oval, acute, smooth on both sides, margin serrulate, base sub-ciliate: flowers peduncled, about in threes: calyx glandular-hirsute. 6—10 i.

glabella, (Mx. (1) (p.) glabrous: stem terete: leaves lanceolate and ovate, 3-nerved, denticulate, slightly glaucous: calyx glutinous. 2—3 f. N—C.

stricta, Ph. (p. J. ♃.) stem straight, erect, winged, glabrous, bearded at the joints: leaves sessile, narrow-lanceolate, acuminate, 3-nerved, glabrous on both sides: corymbs dichotomous.

lutea, Wr. (y. Ju. ☉.) hirsute: leaves lance-linear, sometimes wedge-form at the base, 3-nerved: panicle pyramidal: anthers erect. 18 i. N—C.

linearifolia, Lk. (y.) stem terete, sub-pubescent: leaves alternate, linear, oblong, obtuse, sessile, pubescent on both sides: flowers sub-solitary.

angustifolia, E. (2) (w. Ju. ♃.) hirsute: leaves linear and lance-linear, somewhat clustered: root creeping? S—C.

13—2. RHINAN'THUS. 36. Rhin. nar. ast.

crista galli, W. (yellow rattle, yellow coxcomb. y. J. ☉.) upper lip of the corol vaulted: calyx smooth: leaves lanceolate, serrate. 1 f. B. Canada.

12—1. RHIZOPHO'RA. 91. Rhiz. ast.

mangle, (mangrove tree. ♄.) leaves acute, ovate, opposite-ribbed: peduncles axillary: fruit clavate-subulate. This tree roots by pendant appendages, and thus becomes greatly multiplied. Louisiana.

10—1. RHODODEN'DRON. 50. Rhod. f. edi. ton. b. ast+. feb. w. cab.

maximum, (wild rosebay. W. r. Ju. ♄.) leaves oblong, glabrous, paler beneath: umbels terminal, dense: corols somewhat bell-form. Var. *roseum*, corol pale rose color, divisions roundish: leaves obtuse at the base. Var. *album*, coral smaller, white, divisions oblong: leaves acute at the base. Var. *purpureum*, corol purple, divisions oblong: leaves obtuse at the base, green on both sides. 4—20 f. S. P. Y. B. Banks of Delaware river, Plainfield, Mass. Dr. J. Porter.

lapponicum, (3) (Ap. Ju. ♄.) leaves elliptical, roughened with excavated punctures. 8—10 i.

albiflorum, H. (w. ♄.) erect: leaves deciduous, lance-oval, very entire, membranaceous, glabrous, fasciculate in the apex of the branches: peduncles fasciculate, lateral and terminal: calyx subfoliaceous, hispid: corol rotate-campanulate: stamens 10, erect, equal. 2—3 f. R.

kamschaticum, Pallas. ( ) low, procumbent: leaves persistent, obovate, ciliate, veiny, shining: calyx large, foliaceous: corol rotate: stamens longer. A.

Exotic.

ponticum, (rose bay. p. ♄.) leaves oblong, glabrous, both sides colored alike: corymbs terminal: corol bell wheel-form: petals lanceolate.

Southern.

punctatum, (r. Ju. ♄.) leaves lance-oval, glabrous, with resinous dots beneath: umbels terminal: corol funnel-form: capsules long. 4—6 f.

Rhinanthus. Gr. *rin*, nose, and *anthos*, flower; its ringent corol resembling the snout of an animal.

Rhizophora. Gr. *riza*, root, and *phĕro*, to carry, from its numerous roots.

Rhododendron. Gr. *rodon*, rose, and *dendron*, tree, because its flowers resemble roses.

(1) alifanus, Wr. (2) mariana, var. exalbida, Mx. (1) Azalea, L.

catawbiense, Mx. (r. J. ♄.) leaves short-oval, roundish-obtuse at each end: umbels terminal: segments of the calyx narrow-oblong: corol bell-form. 3—4 f.

Rhododendron, Azalea.

10—1. Rho'dora. 50. Rhod. ast. ton.

canadensis, (false honeysuckle, rhodora. b. r. M. ♄.) leaves oval, entire, glaucous-pubescent beneath: flowers in terminal umbels. 2 f. B. Y. C. N.

5—3. Rhus, 94. Anac. f. h. poi. ast. ton. tan.

typhi'na, (stag's horn sumach. O. y. g. Ju. ♄.) branches and petioles very villose: leaves pinnate, many-paired; leafets lance-oblong, serrate, somewhat downy beneath, Var. *glabra*, leafets glabrous beneath. Berries red and very sour. 8—15 f. S. Mch.

glabra, (sleek sumach. O. g. r. Ju. ♄.) branches, petioles and leaves glabrous: leaves pinnate, many-paired; leafets lance-oblong, serrate, whitish beneath: fruit silky. Var. *elegans*, flowers dioecious. The leaves of both the species are used for tanning morocco leather. Berries red and sour. 6—12 f. S. Mch.

copallina, (wing-rib sumach, mountain sumach. W. y-g. Ju. ♄.) leaves pinnate, with the main petiole joint-winged; leafets lance-oval, entire: flowers dioecious. Berries red. 3—12 f. S. P. T. F. W. N. Mch.

venenata, (1) (poison sumach, poison elder. W. y-g. Ju. ♄.) very glabrous: leaves pinnate, many-paired; leafets oval, abruptly acuminate, entire; petioles not winged, panicle lax, dioecious: fruit glabrous. Berries green, at length whitish. Panicle few-flowered compared with the preceding species. Very poisonous. 8—15 f. S. F. P. N. C. B. Florida. Mch.

toxicodendron, (poison vine, poison ash. W. g. Ju. ♄.) rooting: leaves ternate; leafets oval, entire or sinuate-crenate: racemes on the branches and axillary, sessile, dioecious. Var. *radicans*, (2) (poison ivy, climbing sumach) stem climbing and rooting: leafets broad, entire, or with scattered teeth. Var. *quercifolia*, (3) (poison oak) erect, low: leafets variously sinuate-lobed. Var. *microcarpa*, leafets oblong-oval, long-acuminate, sub-rhombic: fruit very small. The sap of this species is an excellent marking ink for linen. O. W. F. V. N. T. B. Florida. Mch.

aromatica, A. (W. y. M. ♄.) leaves trifoliate: leafets sessile, gash-crenate, pubescent beneath, middle one rhombic, lateral ones rhomb-ovate: flowers deposited in compact aments. Small shrub. S. P. W. O. H. N. Canada.

diversiloba, T. & G. ( ) nearly glabrous: stem scarcely climbing, with short leafy branches: leaves 3 to 5-foliolate: leafets very obtuse, in the pistillate plant slightly, in the staminate rather deeply pinnately lobed; lobes very obtuse, the incisions acute: panicles axillary, racemose: drupes sub-globose. Oregon.

trilobata, N. ( ) leaves glabrous, small: lateral leafets obovate, obtuse, 3-lobed at the apex or nearly entire; terminal leafet cuneiform, 3-lobed at the summit, the middle lobe sometimes 3-toothed. Rocky Mts.

Exotic.

coti'nus, (false fringe tree, aaron's beard. p-g. Ju. ♄.) leaves simple, obovate and ovate: panicle racemes plumose. A small tree with very minute flowers supported on capillary, downy, or hairy peduncles. Indigenous to Siberia, Austria, and Lombardy.

Southern.

pumila, Mx. (Ju. ♄.) low: branches and petioles pubescent: leafets oval, gash-toothed, tomentose beneath: fruit silky and downy. Poisonous. 1 f.

laurina, N. ( ) very glabrous: leaves elliptical or elliptic-ovate, obtuse or emargi-

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Rhodora. Gr. *rodon*, a rose, from the resemblance of the flowers.

Rhus. Gr. *rous*, sumach, from Celtic *rhudd* or *rud*, red; from the color of the fruit.

(1) venenata, Dc. (2) Made a distinct species by L. also by Dc.; but this species is too variable to be divided hastily. (3) lobata, Dc.

nate, often mucronate, on rather long petioles: panicles crowded: stamens 5: filaments very short. California.

Rhynchosia, PHASEOLUS.

3—1. RHYNCHOS'PORA.* (1) 9. Cype. fod. ton—.

alba, (W. Ju. ♃.) spike corymb-fascicled: culm triangular above: leaves setaceous: pericarp somewhat lenticular: bristles about 10. 12—18 i. *S.* B. C. O. N. Mch.

fusca, M. (2) ( ) culm 3-angled: leaves linear, carinate: fascicles of spikes alternate, peduncled: spikes ovate: glumes ovate, brown: pericarp ovate with an acute black tubercle. 2 f.

glomerata, (3) (false bog-rush. W. J. ♃.) spikes corymb-fascicled, remote, in pairs: culm obtusely triangular: leaves flat: pericarp obovate-wedge-form, very smooth, as long as the tubercle. 12—18 i. *S.* P. C. H. N. K. Mch. S—C.

capillacea, T. (Ju.) spikes 3—5, nearly terminal: culm 3-angled, somewhat leafy: leaves setaceous: pericarp stiped, sub-rugose.

sparsa, Mx. (Ju.) culm 3-angled, leafy: corymbs axillary and terminal, compound, lax: peduncles capillary: pericarp obovate, rugose, much longer than the tubercle. 18 i. *S.* P. Y. S—C.

cymosa, W. (4) (Ju.) culm 3-angled, leafy: cymes terminal and axillary; terminal one largest: pericarp round-ovate, compressed, transversely rugose: tubercle conical. 12—18 i. *S.*

laxa, Vahl. (5) (W.) culm 3-angled: corymbs leafy, decompound, loose: spike subulate: pericarp obovate, pointed with the long, persistent style. 3—6 f. *S.* S—C.

torreyana, Gray. ( ) culm slender, sub-terete: leaves setaceous: panicle corymbose, somewhat few-flowered; spikelets ovate, mostly pedicellate: nut elliptic-obovate, compressed, transversely rugose: bristles hispid upward, shorter than the nut: tubercle compressed-conic: base as broad as the nut. New Jersey.

macrostachya. T. ( ) axillary corymbs sub-simple; the terminal ones compound; upper spikelets densely fascicled: nut obovate, smooth: bristles hispid upwards, twice as long as the nut: style persistent, nearly four times the length of the nut. Massachusetts.

gracilenta, Gray. ( ) culm and leaves very slender: corymbs small, somewhat crowded; terminal ones sub-sesile; lateral ones exsertly peduncled: nut smooth, ovate, or orbicular ovate, lens-form: bristles hispid upward, longer than the nut: tubercle subulate, dilated at the base, nearly equalling the nut. New Jersey, New York, N—C.

cephalantha, Gray. ( ) small heads axillary and terminal, sub-globose, many-flowered, often in pairs: spikelets oblong-lanceolate: nut smooth, orbicular-obovate, lenticular, somewhat margined, attenuate at the base, equalling the subulate tubercle: bristles hispid upward or backwards, twice as long as the nut. *S.* New Jersey.

Southern.

veriflora, Mx. (6) (M. ♃.) culm and leaves setaceous: panicle loose, few-flowered: pericarp obovate, rugose: bristles as long as the seed. 1 f.

inexpansa, Mx. (Ju.) culm obscurely 3-angled: panicles remote, pendulous: pericarp oblong, rugose: bristles scabrous, twice as long as the seed. 2 f. S—C.

fascicularis, Mx. ( ) flowers fascisled, lateral and terminal: bracts short: spikelets oblong: scales mucronate: bristles twice as long as the smooth pericarp.

distans, Mx. (Ju.) culm 3-angled: fascicles of flowers distant: pericarp lenticular, slightly furrowed: bristles setaceous. 12—20 i. S—C.

ciliata, Vahl. (♃.) spike corymb-fascicled, terminal: bracts, and leaves obtusish, ciliate.

plumosa, E. (Ju.) culm slender, 3-angled: leaves linear: flowers terminal, crowded: bracts awned: bristles feathered. 8—12 i.

Rhynchospora. Gr. *rūnchos*, the beak of a bird, and *spora*, seed, the permanent style forming a beak to the seed.

(1) Schoenus, L. Mx. W. M. (2) alba, var. fusca, Ph. (3) capitellata, E.
(4) Scirpus polyphyllus, Ph. (5) longirostis, E. (6) micrantha, Vahl.

* Dr. Asa Gray has greatly improved this genus.

punctata, E. ( ) fascicles lateral and terminal, approximate at the summit of the culm: pericarp rugose, dotted. 1—2 f.

caduca, E. (Ju.) culm 3-angled: panicles axillary, erect: spikelets clustered, sessile: pericarp lenticular, rugose: bristles twice as long as the seed.

teres, E. (1) (Ju.) culm terete: leaves linear: panicles cyme-like: floweres crowded: pericarp glabrous: bristles setaceous. 1—3 f.

patula, Gray. ( ) culm triquetrous, slender above: corymbs axillary and terminal, patulous, lax flowered: spikelets ovate: nut orbicular or orbicular-obovate, compressed, transversely rugose: bristles hispid upwards, as long as the nut. Florida.

microcarpa, Bald. ( ) culm slender, sub-triangular: corymb loose-flowered, exsert peduncled, upper ones approximate: bristles fragile, hispid upwards, scarcely as long as the nut: nut ovate, compressed, rugose. Florida, N—C.

dodecandra, Bald. ( ) panicle corymbose, loose-flowered; spikelets ovate-lanceolate: stamens 10—12: nut-oblong, smooth: tubercle short, sub-hemispheric: bristles hispid upwards, equalling the nut. Florida.

megalocarpa, Gray. ( ) hexandrous: corymbs loosely flowered: nut ovate, lens-form, smooth, at length black: tubercle obtuse, conic, confluent with the nut: bristles caducous, hispid upwards, equalling the nut. East Florida.

pycnocarpa, G. ( ) corymbs sparse-flowered: spikelets turgid-ovate: nut smooth, ovate, tumid; apex thickened, larger than the short conic tubercle: bristles 10, caducous, hispid upwards, nearly equalling the nut. N—C. West Florida.

baldwinii, Gray. ( ) leaves acute, glaucous: spikelets ovate: corymb crowded, terminal: nut smooth, ovate, or sub-orbicular-ovate, lenticular: bristles 12, hispid upwards, equalling the nut. Georgia.

paniculata, Gray. ( ) culm triquetrous: panicles numerous, approximate, often geminate; spikelets oblong-lanceolate, crowded on the ultimate divisions of the panicles: nut smooth, obovate, lenticular: tubercle subulate, equalling the nut: bristles retrorse-hispid, more than twice the length of the nut. La. Florida.

oligantha, Gray. ( ) culm nearly leafless, filiform: spikelets very few, ovate-oblong: bristles hispid upwards, plumose below the middle: nut obovate-oblong, very minutely roughened, a little shorter than the bristles: tubercle very short, conic. N—C.

semi-plumosa, Gray. ( ) culm sub-terete: leaves and bracts setaceous: spikes approximate at the summit of the culm: bristles hispid upwards, plumose below the middle: nut ovate, smooth shorter than the bristles: tubercle compressed-conic, nearly equalling the nut. New Orleans.

5—1. RI'BES. 85. Gros. f. ref. gel.

1. *Currant-like. Flowers racemed.*

flo'ridum W. (2) (wild black currant. O. M. ♄.) unarmed: leaves punctate both sides: racemes pendant: calyx cylindric: bracts longer than the pedicels. 3—4 f. S. Mch.

albinervium. Mx. (W. A. g-y. M. ♄.) unarmed: leaves abbreviated, acutely lobed, smoothish: nerves white: racemes recurved: berries glabrous, red. D. Mch.

tri'fidum, Mx. (A. y-g. M. ♄.) unarmed: leaves moderately lobed, glabrous above, pubescent beneath: racemes lax, pubescent: flowers flattish: divisions of the calyx about 3-cleft: petals spatulate, obtuse: berries hirsute, red. P. Canada. Mch.

rigens, Mx. (mountain currant. A. M. ♄.) unarmed: branches straight: leaves acutely lobed and toothed, reticulate-rugose, pubescent beneath: racemes lax; becoming stiffly erect: berries sub-hispid, red, erect. P. W. Canada, Wachuset, Monadnok. White Mts.

glandulosum, A. (3) (r-y. M. ♄.) unarmed: branches reclined-prostrate: leaves lobed, smoothish; younger ones pubescent: racemes sub-erect: petals deltoid: bracts minute: berry hispid. Most of the plant, particularly the calyx, covered with glandular hairs. 2—3 f.

Ribes. An ancient Arabian name, of uncertain etymology.

(1) cymosa, E. As Elliott's plant differs essentially from the cymosa of M., it becomes necessary to give it another name. (2) pennsylvanicum, Lk. recurvatum, Mx. (3) prostratum, Hr.

sanguineum, Ph. (W. r-p. Mar. ♄.) unarmed: leaves cordate, 3 lobed, serrate, with vein like lines, glabrous above, sparingly white-tomentose beneath: racemes lax, pubescent, twice as long as the leaves: calyx tubular: petals oblong, of the length of the calyx: bracts obovate-spatulate, as long as the pedicels: germs hirsute.

aureum, Ph. (W. y. Ap. ♄.) unarmed, very glabrous: leaves 3-lobed; lobes divaricate, with a few gash-teeth, shorter than the petiole; petiole ciliate at the base: racemes lax, dense flowered: calyx tubular, longer than the pedicels; tube slender; divisions oblong, obtuse: petals linear, half as long as the divisions of the calyx: bracts linear, as long as the pedicels: berries glabrous.

laxiflorum, Ph. (1) (W. y. ♄.) unarmed: leaves cordate, 5-lobed, gash-toothed, glabrous; petioles slender: racemes lax, erect, as long as the leaves: bracts subulate: pedicels elongated: calyx bell-tubular: berries globose, hispid.

prostratum, Le Herit. ( ) unarmed: leaves deeply cordate, 5—7-lobed, glabrous; lobes acute, doubly cut-serrate, naked and glabrous both sides: racemes slender, erect, lax: bracts small, obtuse, many times shorter than the glandular-setose pedicel: calyx wheel-form: germ and berry glandular-setose. Berries red. Canada. R. A. P.

bracteosum, Doug. (p-y.) unarmed, leaves longly petioled, cordate, deeply 5—7-lobed; lobes acuminate, doubly gash-serrate, finely hispid above, resinous-punctate beneath: racemes often terminal, at length deflexed: pedicels erect-spreading, pubescent, exceeding the spatulate bracts: calyx rotate, glabrous: petals minute, roundish: germs and berries resinous punctate. 5—8 f. A. R.

hudsonianum, Rich. ( ) unarmed: branches erect: leaves three-lobed, very glabrous above, resinous-punctate beneath; leaves and petioles villose: racemes erect, pubescent: bracts short: divisions of the campanulate calyx spreading, villose: germs punctate: berries globose, glabrous, black. A var. has the racemes longer: calyx somewhat glabrous. R. A.

cereum, Doug. ( ) unarmed: leaves small, cordate, lobed, serrate, glandulous-pubescent, glabrous, glaucous, white-glandulous above: racemes pendulous, sub-capitate, 3—5-flowered: bracts ovate, appressed to the glabrous germ: flowers sub-sessile, angular-cylindric: divisions of the calyx small, reflexed. R.

viscosissimum, Ph. (W. y. J. ♄.) unarmed, wholly viscid-pilose: leaves cordate, obtusely 3-lobed, serrate: racemes erect, short: calyx tubular: petals oblong: bracts linear-spatulate, half as long as the pedicel: germ hirsute.

tenuiflorum, Lindl. ( ) unarmed: leaves sub-rotund, three-lobed, mealy; lobes obtusely dentate at the apex: racemes pendulous, many-flowered: calyx tubular, glabrous, colored, longer than the pedicel: petals very entire, half as long as the linear, obtuse divisions of the calyx: berry glabrous. R.

2. *Gooseberry-like. Peduncles mostly few-flowered, rarely sub-racemed.*

hirtellum, Mx. (W. A. g. M. ♄.) spines small, sub-axillary: branches sub-hispid: leaves small, semi-trifid; lobes sub-dentate: peduncles 1-flowered: berries glabrous, red. S. W. T. P. Canada.

gracile, Mx. (2) (M. ♄.) spines small, sub-axillary: leaves petioled, slender, pubescent both sides; lobes acute, gash-toothed: peduncles capillary, (filiform?) about 2-flowered: calyx bell-tubular: berries glabrous, bluish, purple. 2—3 f. S. P. W. T. N.

triflorum, W. (wild gooseberry. A. g. M. ♄.) spine sub-axillary: leaves glabrous, 3—5-lobed, gash-toothed: peduncles sub-3-flowered, with the pedicels elongated: bracts very short: petals spatulate, undulate: style hirsute, half 2 or 3-cleft, exsert: berries glabrous, pale-red. 3—4 f. S. B. N. F. V.

oxyacanthoides, (smooth gooseberry. W. M. ♄.) the large sub-solitary prickles near the buds, the smaller ones scattered: leaves glabrous, with toothed lobes: peduncles short, about 2-flowered: berries glabrous. 3 f. P. C. Canada.

lacustris, P. (3) (swamp gooseberry. g-y. M. ♄.) sub-axillary spines few: stem everywhere aculeate hispid: leaves lobed beyond the middle; petioles villose: berries somewhat racemed, hispid. 3—4 f. S. C. W. N. P. V. B. O. Canada.

cynos'bati, Mx. (prickly gooseberry. W. g. M. ♄.) sub-axillary spines about in pairs: leaves short-lobed, gash-toothed, with soft pubescence: racemes nodding, few-flowered: calyx erect, bell-form: berries prickly, dark brown. T. W. P. C. Catskill Mts.

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(1) prostratum? Le Herit. (2) Synonymous with lacustris, Aikin. (3) oxycanthoides, Mx.

speciosum, (Ph. W. p. ♄.) under the buds 3-plaited prickly: leaves wedge-roundish, gash-crenate, glabrous, nerved, paler beneath, short-petioled: peduncles about 3-flowered, longer than the leaves: pedicels and germs glandular-pilose: calyx tubular, longer than the pedicels: stamens very long, exsert.

menziesii, Ph. (W. r. p. ♄.) under the buds 3-plaited-prickly: branches very hispid: leaves truncate at the base, sub-5-lobed, gash-toothed; lateral lobes shortest, tomentose beneath: peduncles about 2-flowered equal to the leaves: calyx tubular; limb spreading: stamens as long as the calyx: style exsert: berry globose, prickly.

sctosum, Lindl. (g.) branches densely setose: prickles unequal, subulate: leaves subrotund, cordate at the base, pubescent, 3—5-lobed, deeply crenate: peduncles two-flowered, somewhat bracted: calyx tubular-campanulate; divisions linear, obtuse, spreading, twice as long as the very entire petals. Berries hispid. R.

divaricatum, Doug. (g.) branches divaricate, setose, at length naked: spines 1—3, axillary, deflexed, coarse: leaves sub-rotund, 3-lobed, gash-toothed, nerved, glabrous: peduncles 3-flowered, nodding: calyx funnel-form: divisions at length spreading, twice as long as the tube: style and stamens exsert: berries glabrous. A. R.

irriguum, Doug. (g.) prickles axillary, in threes: leaves cordate, somewhat 5-lobed, dentate, ciliate, both sides pilose, nerved: peduncles 3-flowered, glandulous-pilose: calyx campanulate; divisions linear, equalling the tube: berries glabrous. A.

saxosum, H. (1) (g.) stem unarmed, rarely aculeate: spines none, solitary or in pairs: leaves cordate, 5-lobed, serrate, sub-glabrous: peduncles very short, deflexed, 1—2-flowered: tube of the glabrous calyx campanulate: divisions spreading, at length reflexed, twice as long as the corol, about equalling the stamens: germ naked. R. A.

rubrum, (currant. g. M. ♄.) unarmed: racemes glabrous, nodding: corol flat; petals obcordate: leaves obtusely 5-lobed: stem erect. Berries red. 2—4 f. R.

Exotic.

nigrum, (black currant. g. M. ♄.) unarmed: leaves punctate beneath: racemes lax: flowers bell-form: bracts shorter than the pedicels. Berries black. 3—5 f.

grossula'ria, (english gooseberry. g. M. ♄.) branches prickly: petioles hairy: bracts 2-leaved: berry glabrous or hirsute. 2—4 f.

uva'crispa, (smooth gooseberry. g. M. ♄.) branches prickly: berry glabrous: pedicels with 1-leaved bracts. Perhaps a variety of the *grossularia*.

Southern.

resinosum, Ph. (A. g. Ap. ♄.) unarmed, wholly covered with resinous, glandular hairs: leaves 3—5-lobed, roundish; racemes erect: calyx flattish: petals obtuse-rhomboid: bracts linear, longer than the pedicels: berries hirsute.

rotundifolium, Mx. (A. ♄.) spines sub-axillary: leaves roundish, sub-pubescent; lobes obtuse: peduncles 1-flowered: limb of the calyx tubular: berries glabrous.

19—15. Ri'cinus. 96. Euph. cat. ast. deob. diu. nar—. *jau.*

Exotic.

communis, (castor-oil plant, palma christi. ☉.) leaves peltate, palmate; lobes lanceolate, serrate: stem with hoary mealiness. 4—6 f.

4—1. Rivi'na 29. Phyt. eme. nar.

laevis, ( ) racemes simple: leaves ovate, acuminate, glabrous, flat: stem terete. Resembles Phytolacca decandra. *S.*

Southern.

humilis, P. (♄.) racemes simple: flowers tetrandrous: leaves pubescent.

Ricinus. Lat. *ricinus*, a tick; its seed resembling that insect.
Rivina. In honor of the great German botanist, Rivinus.

(1) R. triflorum, Bw.

16—10. Robin'ia. 93. Legu. b. bit-ton—.

pseudo-acacia, (locust tree. false acacia A. w. M. ♄.) leaves pinnate, with a terminal leafet: stipules thorny, or a thorn, racemes pendant: teeth of the calyx unawned: legumes smooth. Cultivated. 30—40 f. S. N. B. F. P. T. C. O. Canada.

Southern.

viscosa, (1) (clammy locust. A. Ju. ♄.) racemes with 1-flowered pedicels: leaves pinnate, with a terminal leafet: branches and legumes with viscous glands: calyx acuminate. Racemes axillary, dense-flowered, erect: flowers approaching from white to red. Cultivated. M. S—C.

hispida, (2) (rose locust. rose acacia. A. Ap. r. ♃.) racemes sub-axillary, sub-erect: calyx acuminate: stem mostly unarmed; most of the plant hispid: leaves pinnate, with a terminal leafet: leafets round-oval, mucronate, sometimes alternate. Var. *rosea*, branchlets nearly glabrous. Cultivated. 3—6 f. M. S—C.

5—1. Rochel'ia. (3) 43. Bora. ton. exp.

virginiana, (W. w-b. J. ☉.) pilose: leaves lance-oblong, acuminate, scabrous above: racemes divaricate: fruit densely covered with hooked bristles. 2 f. S. P. C. T. O. F. Mch. M.

lappula, (b. Ju. ☉.) hispid: fruit prickly, bearded: leaves linear-oblong: stem branched above: corol longer than the calyx. 12—18 i. O. T. M. Mch.

glomerata, N. (4) (W. w. J. ♂.) hirsute: fruit rugose: leaves linear-spatulate: spikes peduncled, axillary, conglomerate, bifid; upper ones sessile: divisions of the corol entire. 6—12 i. R.

patens, N. (r. J. ♃.) strigose-pilose: leaves oblong-linear, obtusish: stem simple, nakedish: flower-bearing branches spreading: flowers peduncled, lax. R.

11—12. Ro'sa. 92. Rosa. f. aro. h. ton.

blanda. W. (W. Ju. ♄.) tube of the calyx globose, and with the peduncles hispid: leafets (7) oblong, sub-equally serrate, glabrous; petioles glabrous, somewhat prickly: branches very hispid-aculeate.

parviflora, W. (5) (wild rose. O. r. w. ♄.) tube of the calyx depressed-globose, and with the peduncles hispid: petioles pubescent, sub-aculeate: stem glabrous: prickles stipular, straight: leafets lance-oval, simply serrate, glabrous: flowers somewhat in pairs. Very variable. 1—3 f. S. Mch.

nitida, W. (r. Ju. ♄.) tube of the calyx globose: peduncles and branches hispid: petioles sub-pilose, unarmed; leafets (7) lance-oblong, both sides very glabrous and shining. S.

lucida, Lh. (W. r. Ju. ♄.) tube of the calyx depressed-globose, and with the peduncles sub-hispid: petioles glabrous, sub-aculeate: stem glabrous: prickles stipular, straight: leafets lance-ovate, obtusish, coarsely serrate, glabrous, shining: flowers somewhat in pairs: divisions of the calyx entire. 4—6 f. S. P. Y. W.

gemella, W. (r. Ju. ♄.) tube of the calyx depressed-globose, and with the peduncles glabrous: flowers somewhat in pairs: leaves oblong, acute, opake; petioles and veins pubescent beneath: prickles uncinate, the cauline ones in pairs below the axils. P. Y. D. K.

carolina. (6) (swamp rose. O. r-w. Ju. ♄.) germs globose: germs and peduncles a little hispid, or glabrous: petioles hairy and a little prickly: stem glabrous: prickles stipular, sub-uncinate: leafets 5 or 7, oblong-oval or elliptic-lanceolate, acute, sharply serrate, glaucous beneath: flowers solitary or corymbed. 3—6 f. Mch.

sabifolia, Br. (climbing rose. W. r. Ju. ♄.) tube of the calyx sub-globose: and with

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Robinia. In honor of John Robin, botanist to Louis XIV.

Rochelia. In honor of Danl. De la Roche.

Rosa. Lat. *rose*. From Celtic, *rhos*, or *rhudd*, red; slluding to the prevailing color of the flower.

(1) glutinosa, C. (2) montana, Bartram. rosea, Du Hamel. (3) Myosotis, L. (4) Cynoglossum, Ph. Myosotis, N. (5) carolina, Mx. (6) pennsylvanica, Mx. corymbosa, Eh. In G. Britain there are 16 native species, 43 exotic, 45 permament varieties, and 325 gardener's varieties of the rose.

the peduncles glandular-hispid: stem smooth: prickles short, solitary, uncinate: leaves petioled, ternate; leafets ovate, acute, serrate, glabrous above, white-downy beneath: divisions of the calyx viscid-pilose: flowers corymbed. 6—8 f. S. K. Mch.

rubiginosa, (1) (sweet-briar, eglantine. W. r. J. ♄.) tube of the calyx ovate: peduncles and petioles glandular-hispid: petioles somewhat prickly: stem glabrous: prickles scattered, hooked, slender: leafets (5 or 7) ovate, serrate, sub-glandular beneath. 3—10 f. S. T. Y. C. P. N. B. O. F.

micrantha, S. (r-w. J. ♄.) tube of the calyx ovate, and with the peduncles somewhat hispid: prickles hooked: leafets ovate, acute, with reddish glands beneath. Resembles the last in the odor of its leaves. 4—8 f. B.

sayi, Sz. (W. ♄.) tube of the calyx oblong-ovate, smooth: divisions of the calyx persistent, erect, spreading at the summit, villous, longer than the tube: peduncles rigid, smooth or sub-glandular-hispid: petioles villous and prickly underneath: leafets (7) ovate, sessile, deeply serrate, smooth above, glaucous-villose beneath: stipules clasping glandular-villose: younger branches aculeate hispid.

woodsii, Lindl. (   ) stipules and sepals connivent: leafets oblong, obtuse, glabrous. A var. has the leaves downy beneath. A.

fraxinfiolia, Lindl. (   ) higher, unarmed: branches stiffly erect, becoming glaucous: leafets opake, undulate, not hairy. R.

majalis, Lindl. (   ) lower, grayish: branches stiffly erect, colored: prickles scattered, somewhat equal: stipules linear: leafets oblong, flat, beneath glaucous, tomentose. A.

stricta, Lindl. (   ) very branching; branchlets unarmed: fruit elongated, pendulous. A var. has the leaves pubescent beneath. R. A.

Exotic.

canina, (dog rose. ♄.) tube of the calyx ovate, and with the peduncles glabrous: stem and petioles prickly: leaves ovate, glabrous.

gallica, (french rose, common rose. r. J. ♄.) tube of the calyx ovate, and with the peduncles hispid: stem and petioles hispid-prickly. Sometimes the colors are variegated.

damascena, (damask rose. w. r. J. ♄.) calyx half-pinnate: tube ovate, turgid, (thickened near its top,) bristly: stem and petioles prickly: leafets ovate, pointed, downy beneath.

musco'sa, (moss rose. r. Au. ♄.) tube of the calyx ovate: calyx, peduncles, petioles and branches hispid, glandular-viscid, (mossy like:) spines of the branches scattered, straight.

moschata, (musk rose. ♄.) tube of the calyx ovate, and with the peduncles villose: stem and petioles prickly: leafets oblong, acuminate, glabrous: panicle many-flowered.

burgundiaca, (burgundy rose. ♄.) tube of the calyx sub-globose, and with the peduncles hispid: leafets ovate, pubescent beneath: corol small, full, fleshy-white: disk obscure. Var. *provincialis*, has scattered reflexed prickles on the branches, and glandular serratures.

semperflorens, (monthly rose. ♄.) tube of the calyx ovate-oblong, tapering to both ends, and with the peduncles hispid: stem prickly: flowers in erect corymbs. Resembles *damascena*.

alba, (white rose. w. J. ♄.) tube of the calyx ovate, glabrous or hispid: stem and petioles prickly: leafets ovate, villose beneath.

pimpinellifolia, (burnet rose. r. ♄.) tube of the calyx globose, and with the peduncles glabrous. stem with scattered straight prickles. leaves obtuse, petioles scabrous. Very small.

centifolia, (hundred-leaved rose. r. ♄.) tube of the calyx ovate, and with the peduncles hispid: stem hispid, prickly: leaves pubescent beneath; petioles unarmed.

cinnamo'mea, (cinnamon rose. ♄.) tube of the calyx globose, and with the peduncles glabrous: stem with stipular prickles: petioles somewhat unarmed; leafets oblong. R. majalis. Stem brown-cinnamon color.

multiflora, (japan rose. ♄.) tube of the calyx ovate, and with the peduncles unarmed, villose: stem and petioles prickly. Branches generally purple: leafets ovate: flowers small, panicled.

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(1) suaveolens, Ph.

spinosissima, (scotch rose. ♄.) tube of the calyx globose, glabrous: peduncles hispid: stem and petioles very hispid. Var. *scotica*, is smaller.

parvifolia, (small-leaf rose. ♄.) small: tube of the calyx ovate, sub-glabrous: peduncles glandular: stem and petioles with slender prickles; leafets rugose, a little villose beneath, ovate, glandular-serrate.

Southern.

setigera, Mx. (J. ♄.) tube of the calyx globose: petioles and veins prickly: branches glabrous: prickles in pairs and scattered: divisions 3 to 5, acuminate, glabrous: leafets of the calyx fringed with bristles. 5—8 f.

lutescens, Ph. (y-w. J. ♄.) tube of the calyx globose, and with the peduncles glabrous: branches hispid-spiny: leafets (7) glabrous, oval, acuminate-serrate; petioles unarmed: flowers solitary: divisions of the calyx lanceolate, cuspidate: petals oval, very obtuse.

laevigata, Mx. (cherokee rose. w. Ap. ♄.) tube of the calyx oblong, hispid: leaves perennial, ternate: leafets lanceolate, serrate, coriaceous, lucid: flowers solitary, terminal. 5—20 f.

lyonii, Ph. (W. r. Ju. ♄.) tube of the calyx sub-globose, nearly glabrous: peduncles hispid: petioles somewhat prickly: stem glabrous: prickles scattered, straight: leafets (3 to 5), ovate-oblong, acute, serrate, sub-glabrous above, tomentose beneath: upper ones simple: flowers somewhat in threes: stipules linear; divisions of the calyx tomentose, linear, scarcely gashed.

pendulina, W. (thornless rose. r. J. ♄.) unarmed: tube of the calyx oblong: peduncles and petioles hispid: stem and branches glabrous: fruit pendant. Cultivated.

2—1. Rosmari'nus. 42. Labi. aro. e-ole. sto.

Exotic.

officinalis, (rosemary. ♄.) leaves, some green both sides; others whitish beneath, linear; margins revolute.

3—2. Rottbol'lia. 10. Gram. far. ton.

Southern.

dimidiata, Mx.! (hard grass. L. ♃.) spike compressed, linear: flowers secund: glumes 2-flowered: outer floret staminate: inner one perfect. Charleston, S—C.

ciliata, N. (L.) culm erect, tall: spikes terete, long-peduncled: flowers pedicelled, secund: pedicels and margins of the rachis villose: glumes and paleas each 2. 3—4 f.

rugosa, N. (L.) culm erect: spikes cylindric, solitary, axillary, approximate: joints of the rachis smooth, nearly semi-cylindric, tumid: outer valve of the perfect flower transversely rugose; accessory flowers mostly barren, with an emarginate pedicel.

4—1. Ru'bia. 57. Stel. dye. ton. diu.

Exotic.

tincto'ria, (madder.) leaves lanceolate, about in sixes: stem prickly, climbing. Var. *sylvestris*, lower leaves in sixes; upper ones in fours or in pairs.

Southern.

brownii, Mx. (y. ♃.) hispid: leaves in fours, oval: peduncles solitary, 1-flowered: stem decumbent. Berries purple, smooth, Ph. Carolina.

11—12. Ru'bus. 92. Rosa. ton. f. ref. lax.

ide'us, (garden raspberry. W. w. M. ♄.) leaves quinate-pinnate and ternate; leafets rhomb-ovate, acuminate, downy beneath; petioles channelled: stem prickly, hispid:

Rosmarinus. Lat. *ros*, dew and *marinus*, belonging to the sea shore; from its appearance and habitation.

Rottbollia. In honor of Dr. Christian Rottboll, professor of botany at Copenhagen.

Rubia. Lat. *ruber*, red, from the dye obtained from its roots.

Rubus. Lat. *ruber*, red, from Celtic *rub;* the plant presenting a red hue.

flowers sub-panicled. Var. *americanus*, branchlets nearly glabrous: stem and petioles terete; leaves all ternate: pedicels somewhat prickly. 4—6 f. *S.* F.

villosus, (high blackberry. O. w. J. ♄.) pubescent, hispid and prickly: leaves digitate, in threes or fives; leafets ovate, acuminate, serrate, hairy both sides: stem and petioles prickly: calyx short, acuminate: racemes naked: petals lance-ovate. 4—6 f. *S.* Mch.

frondosus, Bw. (1) (leafy raspberry. J. ♃.) stem prickly, erect: leaves ternate or quinate, pubescent, simple: racemes leafy: petals orbicular. 3—6 f. B. C. Mch.

strigosus, Mx. (2) (red raspberry. O. w. J. ♄.) unarmed, rigidly hispid: leafets 3, or pinnate-quinate, oval, at the base obtuse, acuminate, marked with lines, and white-downy beneath; terminal one often sub-cordate. Fruit red, sweet. Mch.

setosus, Bw. (bristly raspberry. w-r J. ♃.) Stem erect, reclining, rigidly hispid: leaves ternate or quinate, smooth and green on both sides. B.

cuneifolius, Ph. (w. J. ♄.) branches, petioles and peduncles, downy, with recurved prickles: leaves digitate, in threes or fives; leafets wedge-obovate, unequally toothed above, plaited, downy beneath: racemes terminal, panicled: pedicels 1-flowered. *S.* P. Y. T.

canadensis, (3) (J. ♄.) a little glabrous: leaves digitate, in tens, fives and threes: leafets lanceolate, naked both sides, sharply serrate: stem unarmed: bracts lanceolate. Stem purple. C. N. Canada.

occidental'is, (black raspberry, thimble berry. O. w. g. ♄.) branches and petioles glaucous and prickly; leaves ternate, oval, acuminate, sub-lobate and doubly serrate, white-downy beneath; petioles terete: prickles recurved. 4—8 f. *S.* Mch.

hispidus, (w. J. ♄.) sarmentose-procumbent: stem, petioles and peduncles very hispid, with rigid bristles: leaves ternate, gash-serrate, naked, middle one peduncled. P. O. D. Canada. Mch.

trivial'is, A. (4) (creeping blackberry, dew-berry. O. w. J. ♄.) sarmentose-procumbent: petioles and peduncles aculeate-hispid, with the prickles recurved: stipules subulate: leaves ternate or quinate, oblong-oval, acute, unequally serrate, sub-pubescent: pedicels solitary elongated. Var. *flagellaris*, has orbicular petals, and small smooth leaves. *S.* Mch.

inermis, W. (♄.) stem, petioles and peduncles unarmed: leaves ternate, ovate, acute, unequally serrate, tomentose beneath; lateral leafets somewhat gashed: stipules setaceous-subulate.

spectabilis, Ph. (W. M. ♄.) unarmed, glabrous: leaves ternate, ovate, acute, unequally and doubly serrate, pubescent beneath: peduncles terminal, 1-flowered, solitary: petals ovate.

odora'tus, Mx. (flowering raspberry, wild mulberry. Wr. J. ♄.) unarmed, erect, viscid hispid: leaves simple, acutely 3 or 5-lobed: corymbs terminal, spreading. Flowers large; berries rather dry and thin. 3—5 f. *S.* T. C. O. N. V. Mch.

nutkanus, Lindl. (w.) stem fruticose, erect, flexuous, stoloniferous, glandulous pilose at the apex, nakedish at the base: leaves 5-lobed, unequally dentate: corymb simple: calyx somewhat unarmed cuspidate: divisions of the corol equal: stipules connate, persistent. Fruit red, insipid. 4—10 f. A. R.

saxat'ilis, (5) (brier herb, rock blackberry. w. J. ♃.) herbaceous, pubescent: stem creeping: leaves ternate, rhombic, acute, gash-toothed, naked; terminal one petioled: flowers somewhat in threes; peduncles elongated. *S.* O. D. Mch.

obovalis, Mx. (M. ♃.) stem becoming a little woody, hispid, with stiff hairs; leaves ternate, round obovate, serrate, naked: stipules setaceous: racemes sub-corymbed, few-flowered: bracts ovate: pedicels elongated. 2—4 f. *S.* Y. N. P.

sempervi'rens, Bw. (w. J. ♄.) stem procumbent, covered with minute prickles: leaves ternate, obovate, serrate, shining, evergreen. B. T.

arcticus, W. (r. J. ♃.) herbaceous, small: stem unarmed, about 1-flowered: leaves ternate, glabrous, obtusely serrate: petals roundish, emarginate. Labrador.

acaulis, Mx. (6) (W. Ju. ♃.) herbaceous, small: stem unarmed, 1-flowered: leaves ternate, glabrous, sharply serrate: petals oblong, entire: styles approximate. Canada.

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(1) Var. of villosus? Aikin. (2) pennsylvanicus, Lk. (3) triflorus, Rich. (4) procumbens, M. flagellaris, W.

(5) Synonymous with canadensis, Aikin. triflorus, Rich. thus described—unarmed: stem erect, herbaceous with fruticose runners, cauliferous: leaves ternate, rarely 5 pedate, acutely serrate: stipules obovate: panicle about 5-flowered, glandulous. Canada. Lake Huron. R. A. (6) pistillatus, S.

stellatus, W. (W. p: ♃.) herbaceous, small: stem unarmed, erect, 1-flowered: leaves
simple, cordate, 3-lobed, rugose-veined: petals lanceolate.

pedatus, S. (W. w? ♃.) herbaceous, small, creeping: leaves pedate-quinate, gashed:
peduncles filiform, bracted in the middle: calyx nearly glabrous, reflexed.

chamæmorus, (cloud-berry. A. w. J. ♃.) herbaceous, small: stem unarmed, 1-flower-
ed, erect: leaves simple, sub-reniform, round-lobed: petals oblong. Canada.

parviflorus, N. (W. w. ♄.) shrubby, unarmed: leaves simple, palmate-lobed: pedun-
cles 2 or 3-flowered: flowers small: segments of the calyx villose, ovate, abruptly
acuminate: petals oblong-ovate. D. Mch.

deliciosus, T. (W. p. ♄.) stem fruticose, very branching, unarmed branches and
petioles pubescent: leaves simple, round-cordate, shortly 3—5-lobed, villose-pu-
bescent, rugose: bracts lanceolate, 1-toothed: flowers sub-corymbed, terminal:
divisions of the calyx ovate-oblong, acuminate, leafy at the apex, shorter than the
petals.

macropetalus, Doug. (w.) hirsute: stem high, fruticose; branches angled;
slender, elongated: petioles ribbed, peduncles and calyx aculeate-setaceous beneath:
leaves trifoliate: leafets ovate, gash-lobed, serrate, membranaceous; terminal one
larger, longly petioled; lateral ones shorter-petioled: stipules lanceolate: peduncles
2-flowered: segments of the calyx longly acuminate, somewhat equalling the ob-
long petals. A. R.

menziesii, H. (r.) stem procumbent, terete, aculeate, glabrous; branches short,
pubescent-tomentose, aculeate: leaves trifoliate; leafets broad-ovate, sub-lobed, un-
equally serrate, short-petioled, hirsute above, pale and very hirsute beneath: pani-
cles terminal, few flowered: pedicels and calyx aculeate: segments of the calyx
ovate, acute, mucronate, tomentose, shorter than the corol. A.

suberectus, And. ( ) somewhat glabrous. stem sub-erect, angled, aculeate: prickles
scattered, uniform: leaves with 3—5-leafets: panicle lax, few-flowered: segments
of the calyx ovate, very acuminate, margin chiefly pubescent. D. A. Newfound-
land.

nivalis, Doug. (r?) small, becoming fruticose: leaves cordate-3-lobed, sharply
dentate, glabrous, nerves and petioles recurve aculeate: stipules ovate, acute:
peduncles short, 2-flowered; divisions lanceolate, pilose. Fruit red. 6 i. On R.
Mts.

mucronatus, Ser. ( ) stem herbaceous, pilose, unarmed: leaves ternate-palmate,
uniform colored, pilose; leafets rhomboid, acute, serrate: stipules lance-ovate,
acuminate: flowers terminal, in pairs: divisions of the calyx lanceolate, acute,
slightly pubescent, shorter than the corol. Newfoundland.

17—3. RUDBECK'IA. 55. Heli. s. ole. sto.

purpurea, W. (W. A. p. Ju. ♃.) rough: lower leaves broad-ovate, tapering to the
base, remotely toothed; cauline leaves lance-ovate acuminate at both ends, sub-
entire: rays long, pendant, 2-cleft. 3—5 f. S. P. Mch. S—C.

discolor, Ph. (W. y. & p. Au. ♃.) branches corymbed, 1-flowered: peduncles naked,
elongated: leaves lanceolate, strigose-pilose: scales of the involucre ovate, acute:
petals lanceolate, entire, two-colored, as long as the involucre. 2 f. S. D.

fulgida, (W. A. p. Au. ♃.) stem hispid: branches wand-like, elongated, 1-flowered:
leaves lance-oblong, denticulate, hispid, narrow at the base, sub-cordate: involucre
leafy, about equalling the ray: disk hemispheric, with lanceolate chaff. 2—3 f.
S. P.

hirta, (W. y. & p. Ju. ♃.) very hirsute: stem wand-like, sub-ramose, 1-flowered:
peduncles naked: leaves ovate-spatulate, 3-nerved, serrate, rough-haired: scales
of the involucre imbricate in a triple series, shorter than the ray: chaff ob-
long, acute. 2—3 f. S. P. C. M. D. Charleston, S—C. Florida. Toronto.
Mch.

triloba, (W. A. y. & p. Au. ♃.) pilose-hispid: stem panicled; branches divaricate;
many-flowered, leafy: leaves lanceolate, acuminate at both ends, serrate; lower
ones 3-lobed: leafets of the involucre linear, deflexed. 4—5 f. S. P.

laciniata, (cone-flower, cone-disk sunflower. O. y. Au. ♃.) lower leaves pinnate:
leafets 3-lobed; upper ones ovate, erect, crenate: stem glabrous. Damp. 5—10 f.
S. M. Mch.

Rudbeckia. In honor of the Rudbecks, father and son, predecessors of Linneus.

digitata, (W. y. Au. ♃.) lower leaves pinnate; leafets pinnatifid; upper ones simply pinnate; top ones 3-cleft: egret crenate: stem smooth. 4—8 f. *S.* P. D.

pinnata, Mx. (1) (W. y. & p. Ju. ♃.) leaves all pinnate; one or more of the lower leafets 2-parted, the rest undivided: egret entire: stem furrowed, hispid. P. Mch.

globosa, N. (y. ♃.) scabrous; small; ramose: leaves sub-sessile, trifid; cauline ones quinate-pinnatifid: divisions very narrow, very entire: flowers sub-sessile, roundish; rays very short, reflexed. 9 i. R.

Southern.

amplexifolia, W. (W. y. Au. ☉.) glabrous: leaves lance-oblong, cordate, clasping; lower ones serrate: disk cylindric-conical.

laevigata, Ph. (y. ♃.) very glabrous: leaves lance-ovate, acuminate at each end, 2-nerved, sparingly toothed: scales of the involucre lanceolate, as long as the ray.

spatulata, W. (A. Au. ♂.) slender, pubescent: stem 1-flowered: leaves obovate spatulate, entire: involucre spreading, imbricate: ray florets 3-toothed.

aristata, Ph. (y.) stem hispid: branches long, corymbed, 1-flowered: leaves lance-oblong, serrate, hispid: disk sub-hemispheric: chaff of the egret subulate, awned. Does this belong to this genus? Elliott.

radula, Ph. (2) (♂.) stem hispid below, nakedish and glabrous above: peduncles very long, 1-flowered: leaves ovate, attenuate, tuberculate-hispid: involucre imbricate; scales ovate, acuminate, ciliate.

subtomentosa, Ph. (A. Au. ♃.) short pubescent, sub-tomentose: branches erect, many flowered: leaves lance-oblong, acute, sub-serrate; lower ones 3-lobed: scales of the involucre incumbent, shorter than the rays.

columnaris, Ph. (W. r. Ju. ♃.) leaves pinnatifid: leafets lanceolate, outer ones generally largest: receptacles elongated, cylindrical. 1 f.

gracilis, N. ( ) slender, pubescent: stem 1 to 3-flowered: peduncles elongated: leaves spatulate-ovate, remotely denticulate: involucre spreading: disk conic.

tomentosa, E. (y. Au. ♃.) short-pubescent, sub-tomentose: branches erect, virgate: leaves lanceolate, acute, deeply toothed and entire, scabrous; lower ones ternate: scales of the involucre lance-linear, deflected, much shorter than the ray florets. " I am uncertain whether this is the sub-tomentosa of Ph." Elliott. 3—4 f.

mollis, E. (p. S. ♃.) stem hispid, villous, branching: leaves sessile, lance-ovate, dentate, soft-tomentose: florets of the ray numerous, thrice as long as the involucre. 2—3 f.

pollida, N. (p-r. ♃.) rough: leaves lance-linear, very longly petioled, sub-entire; upper ones sessile: rays very long, hanging down, two-toothed. stem elongated, 1-flowered. Arkansas.

apetala, Y. (♃.) seabrous: stem elongated, 1-flowered, very pilose at the base: rays for the most part wanting: leaves radical, sub-sessile, very broadly ovate, sub-rotund. Alabama. Georgia.

nitida, N. (♃.) very glabrous: stem nakedish, somewhat one-flowered: leaves coriaceous, spatulate, oblong, sub-entire; cauline ones few, oblong, sessile: involucre foliaceous; scales oblong, retuse, reflexed at the apex. Georgia. Florida.

odorata, N. (y. ♃.) stem leafy, few-flowered: leaves petioled, trifid, hirsute, pubescent beneath: divisions lanceolate, serrate, acuminate; lower ones somewhat gashed: involucre squarrose: receptacle hemispheric. Arkansas.

atrorubens, N. (r. ♃.) glabrous: stem elongated, terete, one-flowered: leaves narrow-lanceolate, sub-linear, entire, attenuated at the base, longly petioled, scabrous at the margin: rays two-toothed: chaffs exsert, lanceolate, acute. Arkansas, Georgia.

serotina, N. (y. p. ♃.) hirsute, scabrous: stem somewhat one-flowered: leaves spatulate-oblong, sub-serrate, somewhat half-clasping; lower ones petioled, 3-nerved, ovate: divisions of the involucre lanceolate; scales oblong-lanceolate, pubescent, short: rays largish. Arkansas, Georgia.

bicolor, N. (y. b-r. ☉.) pilose, sub-scabrous: stem somewhat one-flowered: leaves oblong, sessile, rarely sub serrate, obtusish; lower ones sub-ovate, petioled: divisions of the involucre oblong: scales lanceolate, hirsute: rays short, bi-colored. 18 i. Arkansas.

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(1) digitata, W. odorata, S. (2) aspera, P?

13—2. Ruel'lia. 39. Acan. sto—. diu.

strepens, (1) (ruel. W. w. p. Ju. ♃.) erect: leaves ovate, lance-ovate or wedge-form, short-petioled, entire or repand, undulate, sub-ciliate at the base, smooth or sub-pilose on both sides: peduncles axillary, very short, about 3-flowered: divisions of the calyx linear, rather shorter than the tube of the corol, scarcely pilose: corol sub-equal. Very variable. 6—24 i. S. P. M. Florida. Mch. S—C.

Southern.

ciliosa, Ph. (2) (W. w. p. J. ♃.) erect, branching, more or less hirsute; leaves petioled, oval, oblong or lance-oblong, acute or obtusish, sometimes cuneate or attenuated into the petiole, undulate, entire or repand, sub-ciliate: peduncles axillary, short or wanting, 1 to 3-flowered: divisions of the calyx half as long as the tube of the corol, linear, hispid, ciliate with whitish hairs: corol sub-equal. 3—24 i.

tubiflora, Le Conte. (w. ♃.) erect, somewhat branching, smoothish or hirsute: leaves sub-sessile, oblong, repand or entire, undulate: peduncles axillary, short, one-flowered: divisions of the calyx lance-linear, (1 inch,) one third the length of the tube of the corol: corol sub-equal, pubescent.

oblongifolia, Mx. (W. b. & p. Ju. ♃.) erect, pubescent: leaves sub-entire, oval and obovate, sub-sessile, sub-undulate: peduncles axillary, very short, 1 to 3-flowered: divisions of the calyx linear-subulate. longer than the tube of the corol, united at the base in a short tube: corol sub-ringent: stamens didynamous. This species differs from the preceding sufficiently to make us wonder how it has escaped our new genera manufacturers. Le Conte.

6—3. Ru'mex. 28. Poly. nut—. lax.

sanguineus, (bloody dock, olcott root. W. J. ♃.) valves entire, oblong, one principally bearing the grain-like appendage: leaves heart-lanceolate. 2—3 f. S. P. C.

crispus, (dock. O. Ju. ♃.) valves of the calyx ovate, entire, all bearing grain-like appendages on their backs: leaves lanceolate, undulate, acute. 2—3 f. S. Mch.

verticillatus, W. (W. J. ♃.) valves entire, all bearing grain-like appendages: spikes leafless, with the flowers half-whorled: leaves lanceolate, sheathing: stipules cylindric. 2 f. S. T. V. P. C. F. N.

britannicus, (W. J. ♃.) valves entire, all bearing grain-like appendages: spikes of the panicle leafless: sheathing stipules obsolete, torn: leaves broad-lanceolate, flat, smooth. 2—3 f. S. P. Y. T. C. B. D. O. Peekskill. Mch.

pallidus, Bw. (white dock. J. ♃.) valves ovate, entire, hardly larger than the grain: spikes slender: leaves lance-linear, acute. B.

obtusifolius, (O. J. ♃.) valves toothed, one principally bearing a grain like appendage: radical leaves heart-oblong, obtuse: stem a little scabrous. Perhaps introduced. 2—4 f. Mch.

aquaticus, (water dock. Ju. ♃.) valves ovate, entire, bearing obsolete grains: leaves heart-lanceolate, acute. 3—4 f. S.

acutus, (W. M. ♃.) valves oblong, somewhat toothed, all graniferous: leaves heart-oblong, acuminate, whorls leafy. Introduced. 2—3 f. N.

aceetosllus, (3) (field sorrel, sheep sorrel. O. g. p. M. ♃.) valves without grains: leaves lance-hastate: flowers dioecious. 6—12 i. S. Mch.

alpi'nus, (   ) polygamous: valves veined, very entire, naked: leaves cordate, obtuse, wrinkled, large, rhubarb-like. New Haven, Ct.

paucifolius, N. (J. ♃.) flowers dioecious: stem simple: leaves lance-oblong, obtuse, tapering to the base, petioled: flowers panicled. 14 i. R.

Exotic.

pulcher, (Ju. ♃.) valves toothed; one conspicuously graniferous: radical leaves panduriform. Naturalized.

patientia, (garden dock, patience. ♃.) valves entire; one of them bearing a grain-like appendage: leaves lance-ovate. Naturalized.

Ruellia. In honor of John Ruelle, a French physician and botanist.

Rumex. Lat. *rumex*, sorrel or dock, the ancient Roman name.

(1) humistrata, Mx. hirsuta, E. (2) hybrida, Ph. (3) Lapathrum, 2d edition; but the acetosus and patientia seem to unite the two genera.

acetosus, (garden sorrel. ♃.) stem elongated: leaves oblong, sagittate, acute, clasping.

Southern.

persicarioides, (W. J. ☉.) valves toothed, each bearing a grain: leaves lanceolate, undulate, entire, petioled. 6—12 i. S—C.

crispatulus, Mx. (W.) valves obtusely cordate, all crested, 3-toothed; one naked; two unequally graniferous: spikes leafless: lower leaves oval; upper ones lanceolate; all undulate.

venosus, Ph. (W. Ap. ♃.) valves large, heart-reniform, entire, net-veined: leaves small, lance-oval, entire, veined. 12 f.

divaricatus? (Ju. ♃.) valves toothed, each bearing a grain: leaves cordate-oblong, obtuse, pubescent. 1—2 f.

hastatulus, Bald. (Ap. ♃.) valves round-cordate, entire, graniferous: leaves petioled, hastate-oblong; auricles entire, obtuse. Dioecious. 1—3 f.

Rumex, OXYRIA.

4—4. RUP'PIA. 7. Fluv. ton—.

maritima, (sea teasel-grass. J. ♃.) floating: leaves pectinate, obtuse: flowers spiked. P. Y. B. C.

10—1. RU'TA. 81. Ruta. acr. stim+.

Exotic.

graveolens, (rue. ♄.) leaves more than decompound; leafets oblong; terminal ones obovate: petals entire.

S.

6—3. SA'BAL. 11. Palm. nut. ole.

Southern.

pumila, Wr. (1) (Ju. ♄.) leaves fan-form: scape panicled: flowers sub-sessile, small. Berry bluish-black. 4—6 f.

minima, N. ( ) root creeping: stipe somewhat prickly, rough: fronds palmate, plicate, sub-7-cleft? Fruit brownish, hirsute. 8 i.

Sabal, CHAMAEROPS.

5—1. SABBA'TIA. 46. Gent. bit. ton.

gra'cilis, Sy. (2) (W. r. Ju. ♂.) slender: branches lax, elongated, 1-flowered: leaves oval-linear: divisions of the calyx linear, about equalling the corol: divisions of the corol obovate: stem angular. 1 f. S. P. S—C.

stellaris, Ph. (3) (r. Au. ♂.) erect: branches dichotomous, elongated, 1-flowered: leaves lanceolate, acute: divisions of the calyx subulate, half as long as the corol: divisions of the corol obovate: stem terete. 12—18 i. S. Y. F.

angularis, (american centaury. W. p. Au. ♂.) erect: leaves heart-ovate, clasping: flowers with long peduncles, corymbed: divisions of the calyx lance-linear: stem with 4-margined angles. 1—2 f. S. P. H. M. Mch. S—C.

calycosa, Mx. (r. Au. ♂.) erect, few-flowered: leaves oblong, obtusish, sessile: flowers solitary, about 7-parted: calyx leafy, exceeding the corol; divisions lanceolate. 1 f. S. P. Y.

chloroides, Mx. (4) (r. Au. ♂.) weak: leaves lanceolate, erect: branches few, 1-flowered: flowers 7 to 13-parted: divisions of the calyx linear, shorter than the

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Ruppia. In honor of Henry Bernard Ruppius, of Gottingen, an ardent student in the study of botany.

Ruta. Probably from the Gr. *ruō*, to preserve, or protect; on account of its medical qualities.

Sabal. A name of barbarous origin; applied by Adanson.

Sabbatia. In honor of Liberatus Sabbati, an Italian botanist.

(1) adansoni, P. Corypha, Wr. minor, Jn. Raphis acaulis, W. Chamaerops, Mx. (2) campanulata, L. (3) gracilis, E. (4) Chlora dodecandra, L.

divisions of the corol. Var. *erecta*, E. stem rigid, erect: leaves linear: corol 10-parted; segments lanceolate. Var. *coriacea*, E. stem erect, sparingly branched: lower leaves sub-oval: corol thick, coriaceous, 8-parted. Var. *flexuosa*, E. stem flexuous: leaves lance-linear: corol 12-parted; segments long, lanceolate: stigmas revolute? 2—3 f. S. P. Y. B.

corymbosa, Bald. (1))w. Au. ♃.) leaves ovate, acute, closely sessile: stem somewhat angled: flowers corymbed: divisions of the calyx subulate, shorter than the corol. Var. *angustifolia*, leaves linear or lance-linear: calyx nearly as long as the corol. 1 f. S. Charleston, S—C.

paniculata, Mx. (2) (w. Au. ♃.) very branching: panicle diffuse: leaves lance-linear: stem sub-terete; branches alternate. 1—2 f. Y.

Southern.

brachiata, E. (r. Ju.) leaves lanceolate: panicle long; branches brachiate, about 3-flowered: corol twice as long as the calyx.

gentianoides, E. (r. Au.) leaves long, linear: flowers axillary, sessile; upper ones crowded: corol about 10-parted. S—C.

3—2. Sac'charum. 10. Gram. lax. nut-sug+.

Exotic.

officinarum, (sugar cane.) flowers panicled, in pairs, one sessile and one pedicelled: paleas awnless. From the East Indies.

Saccharum, Erianthus,

4—4. Sagi'na. 82. Cary. dem.

procumbens, (pearl-wort. w. g. J. ♃.) stem procumbent, glabrous: petals very short. At New Haven it grows mostly in running water, or very wet shady places, forming a kind of water mat: but it grows along dry road-sides in other places. 3—4 i. S. T. Y. C. R. F. H. N.

apetala, (annual pearl-wort. J. ☉.) stem erectish, pubescent: flowers sub-apetalous. Both species have linear, glabrous, connate leaves, and axillary flowers. P.

fontinalis, Short and Peter. (Ap. ☉.) apetalous: stem procumbent, branching, dichotomous above: leaves opposite, linear-spatulate, entire: pedicels solitary, alternate, longer than the leaves. 5—15 i. K.

erecta, L. (☉.) glabrous: stem about 1-flowered: leaves linear, acute: peduncles strict: sepals, petals and stamens 4. 2 i. Introduced.

19—12. Sagitta'ria. 13. Alis. r. amy. sago-like.

sagittifolia, (3) (narrow-head. O. w. Ju. ♃.) leaves lanceolate-acute, sagittate; lobes lanceolate, acute, straight. Var. *latifolia*, leaves ovate, sub acute, sagittate; lobes ovate, slightly acuminate, straight. Var. *major*, leaves large, abruptly acute: scape sub-ramose. Var. *hastata*, T. leaves oblong-lanceolate, acute; lobes spreading, lanceolate, long, acuminate: flowers mostly dioecious. S. *hastata*, 7th edition. Var. *gracilis*, T. leaves linear; lobes much spreading, linear, very long, acute, S. *gracilis*, former editions. Var. *pubescens*, T. leaves and stem pubescent: bracts and calyx very pubescent. S. *pubescens*, 7th edition. 1—2 f. S. Mch.

obtusa, W. (N. w. J. ♃.) leaves broad-ovate, round-obtuse, mucronate-sagittate; lobes approximate, oblong, obliquely acuminate, straight, scape simple: bracts ovate, acute. Dioecious. S. P. C. K.

heterophylla, Ph. (O. w. Au. ♃.) leaves simple, linear and lanceolate, acute at both ends, or oval, acute, at the base obtuse, sagittate; lobes spreading, linear: scape simple, few-flowered: pistillate flower sub-sessile: bracts broad-ovate, acuminate. 8—12 i. Mch.

Saccharum. Lat. *saccharum*, from the Arabic *soukar*, from which in most languages the name for sugar has been derived.

Sagina. Lat. *sagino*, to cram or fatten, birds feeding upon plants of this order.

Sagittaria. Lat. *sagitta*, an arrow, the leaves presenting an evident analogy.

(1) paniculata. Var. angustifolia, Ph. (2) Swertia difformis, L. (3) latifolia, W.

rigida, Ph. (w. Ju. ♃.) leaves narrow-lanceolate, keeled below, rigid, very acute at both ends: scape ramose. Grows in deep water. C. Oswego, N. Y.

graminea, Mx. (1) (w. Ju. ♃.) leaves linear, long, 3-nerved: scape simple, few-flowered: bracts oblong, obtuse. P. Y. C. Canada.

simplex, Ph. (w. Ju. ♃.) leaves lance-linear, acute, narrow below: scape simple, many-flowered: bracts and sepals round, obtuse. Perhaps a variety of the last. *S.* Y.

acutifolia, Ph. (w. Ju. ♃.) leaves subulate, sheathed at the base, convex on the back: scape simple, few-flowered: bracts dilated, acuminate. P. Y. N. C. B. F.

pusilla, N. (Au. ⊙.) leaves linear, obtuse, short; summits foliaceous: scape simple, shorter than the leaves: flowers few; pistillate ones solitary, deflected: stamens about 7. Leaves rarely subulate, about the twelfth of an inch wide. In mud. 1—3 i. T. Y. P. C.

natans, Mx. (w. Ju. ♃.) leaves floating, lance-oval, obtuse, 3-nerved, tapering to the base; lower ones sub-cordate: scape simple, few-flowered: lower peduncles elongated. *S.* P. Charleston, S—C. Florida.

lancifolia, (2) (w. J. ♃.) leaves broad-lanceolate, acute at each end, glabrous, coriaceous, somewhat perennial: scape simple: seed compressed, sub-falcate. 2—3 f. C. N.

1—1. Salicor'nia. 29. Chen. asc. cath—.

herbacea, (samphire, glasswort. L. Au. ⊙.) herbaceous, spreading: joints compressed at the apex, emarginate-bifid. Var. *virginica*, has the branches undivided, and the jointed spikes very long. The fructification is very obscure, but it may be known by its leafless nearly cylindric jointed branches. It grows in salt marshes along the seaboard. 12—18 i. *S.* B. C. Onondaga salt springs. Salina.

mucronata, Bw. (dwarf samphire. L. Au. ⊙.) low, herbaceous: joints quadrangular at the bottom, compressed, and truncate at the top: spikes oblong, with mucronate scales. B.

ambigua, Mx. (L. Ju. ♃. ♄?) perennial, procumbent, branching: joint crescent-shaped, small: spikes alternate and opposite: calyx truncate. Y.

20—1. Sa'lix. 99. Salic. b. ton. feb.

1. *Leaves entire, or obsoletely serrate.*

viminalis, Hn. (basket willow. y. Ap. ♄.) leaves lance-linear, very long, acuminate, entire, sub-undulated, white-silky beneath: glands scattered near the margin: stipules small: aments precede the leafing: scales almost round, very hairy: germs sessile, ovate; style filiform; stigmas acute, undivided. Introduced. *S.* B.

can'dida, W. (white willow. Ap. ♄.) leaves lance-linear, very long, obsoletely denticulate at the apex, pubescent above, white downy beneath; margins revolute: stipules lanceolate, about equalling the petioles: aments precede the leafing, cylindric: scales lance-obovate, down very long. 3—4 f. P. Catskill Mt.

muh'lenbergia'na, W. (3) (speckled willow. W. Ap. ♄.) leaves lanceolate, acutish, sub-entire, white-hairy, rugose-veiny beneath: margin revolute: stipules lanceolate, caducous: aments precede the leafing: scales oblong, with villose margins: germs lance-ovate, silk-villose, long-pedicelled; styles short; stigmas 2-cleft. Scales of the ament tipped with red. 3—5 f. *S.* P. N. T. C. D. Mch.

tristis, A. (mourning willow. W. Ap. ♄.) leaves lance-linear, acute at both ends, entire; margin revolute, smoothish above, rugose-veined and downy beneath: stipules none: aments precede the leafing, oblong. Resembles the last species. 3—4 f. *S.* P. Y. C. T. O. W.

recurvata, Ph. (shrub willow. W. A. Ap. ♄.) leaves lance-obovate, acute, entire; margin glandular, glabrous, glaucous beneath; in the young state silky: stipules none: aments precede leafing, recurved: scales black at the apex; hairs of the length of the germs: germs ovate, short-pedicelled, silky; styles short; stigma 2-cleft. Probably a variety of S. *rosmarinifolia*. 2—3 f. P. T.

Salicornia. Lat. *sal (salis)* salt, from the taste, and *cornu*, a horn, alluding to the shape of the branches.

Salix. Lat. *salio*, to rise or spring up, from their rapid growth, or from the Celtic *sal*, near, and *lis*, water, where many of the species grow.

(1) graminifolia, M. (2) falcata, Ph. (3) incana, Mx. tristis, M. alpina, W.

repens, W. (1) (creeping willow. J. ♄.) creeping: leaves lance-oval, entire, acute, glabrous, somewhat silky beneath: stipules none: aments precede the leafing, ovate: scales obovate, obtuse, hairy, sooty-yellow at the apex: germs ovate-oblong, pedicelled, pubescent; style short; stigma 2-lobed: capsules glabrous. Very small. Found on the White hills, by Bigelow and Boott.

reticulata, W. (J. ♄.) creeping: leaves round-oval, obtuse, very entire, glabrous, net-veined, glaucous beneath: stipules none: aments flower after leafing, peduncled, diandrous; scales obovate, obtuse, pubescent: germs ovate, sessile, villose; stigma sub-sessile, 2-parted. From Labrador, with the next five species.

vestita, Ph. (J. ♄.) creeping: leaves roundish, entire, glabrous above, net-veined, covered beneath with very long, appressed, silky hairs: stipules none: aments flower after leafing, peduncled, linear, silky: germs ovate, sessile, villose; style deeply 2-parted; stigmas 2-cleft.

uva-ursi, Ph. (M. ♄.) depressed: leaves spatulate-obovate, obtuse, very entire; margin sparingly glandular below, glabrous, shining above: stipules none: aments flower after leafing, lax; scales oblong, ciliate: germs ovate, pedicelled, glabrous; style 2-parted; stigma 2-lobed. Resembles *Arbutus uva-ursi.*

cordifolia, Ph. (♄.) depressed: leaves oval, sub-acute, cordate at the base, very entire, net-veined, glabrous above, pale beneath: nerves and margin pilose beneath: stipules semi-cordate.

obovata, Ph. (M. ♄.) diffuse: leaves obovate, obtuse, very entire, glabrous above, silky-villose beneath: stipules none: aments flower at leafing time, sessile, oblong, diandrous; scales obovate; apex black, pilose. T. C.

planifolia, Ph. (♄.) erectish, divaricate: branchlets smooth: leaves lance-oblong, acute at each end, serrulate in the middle, very glabrous, spreading, flat, discolored; stipules none.

prostrata, S. (♄.) leaves without stipules, obtusely dentate, oval-acute, glaucous-silky beneath: stem prostrate.

pedicellaris, Ph. (stem-berried willow. Ap. ♄.) branchlets smooth: leaves lance-obovate, acute, entire, both sides glabrous, and colored alike: stipules none: aments flower at leafing-time, peduncled, glabrous; scales oblong, scarcely pilose, but half as long as the pedicels: germs ovate-oblong, glabrous, with very long pedicels; stigma sessile, 2-cleft. N. T. Catskill Mt.

lambertiana, W. (Ap. ♄.) leaves nearly opposite, lance-obovate, acute, glabrous, sub-serrate at the apex, discolored: stipules none: aments precede the leafing; scales round, black: filament one; anthers two: germs sessile, oval-ovate, silky; style short; stigmas ovate, emarginate. Introduced? T.

rosmarinifolia, (rosemary willow. W. Ap. ♄.) leaves straight, lance-linear, acute at both ends, entire, sub-glandular at the margin, caducous pubescent above, silky beneath: stipules narrow-lanceolate, erect: aments precede the leafing, ovate, recurved; scales oblong, obtuse ciliate: germs pedicelled, lanceolate, villose; stigma sub-sessile, 2-cleft. 3 f. S. P. D. T. Mch.

fuscata, Ph. (sooty willow. Ap. ♄.) leaves lance-obovate, acute, glabrous, sub-serrate, glaucous beneath, in the young state pubescent: stipules very narrow; aments precede the leafing, nodding; scales obtuse, scarcely hairy within: germs short pedicelled, ovate, silky; stigma sessile, 2 lobed. P.

2. *Leaves remotely and obtusely serrate.*

conifera, W. (2) (rose willow, cone-gall willow. W. Ap. ♄.) leaves lance-oblong, remotely serrate, acute, glabrous above, flat and downy beneath, the first year's growth glabrous: stipules lunulate, sub-dentate: aments precede the leafing; scales lanceolate, obtuse, villose: germs pedicelled, lanceolate, silky; style 2-cleft; stigma 2-lobed. The scaly cones are mere excrescences or galls, caused by the stings of insects. 4—8 f. S. T. B. F. D. N. Mch.

myricoides, W. (gale leaf willow. W. Ap. ♄.) leaves lance-oblong, acute, 2 glands at the base, glabrous, glaucous beneath: stipules ovate, acuminate, glandular-serrate: aments flower at leafing time, villose, leafy at the base; scales lanceolate, obtuse, villose, dark-colored: germs long-pedicelled, lanceolate, glabrous; style 2-cleft; stigma 2-cleft. S. C. D. N.

prinoides, Ph. (Ap. ♄.) leaves oval-oblong, acute, remotely wave-serrate, glabrous, glaucous beneath: stipules half-cordate, gash-toothed: aments precede the leafing, villose: germs pedicelled, ovate, acuminate, silky: style long: stigma 2-cleft. 6—8 f. S. P. Y. W. T. F. N. D.

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(1) depressa, Hn. polymorpha, Eh. (2) eriocephala, Mx. longirostris, Mx. the elder.

discolor. W. (bog-willow, red-rod willow, basket willow. Ap. ♄.) leaves oblong, obtusish, glabrous, remotely serrate, entire at the apex, glaucous beneath: stipules caducous, lanceolate, serrate: aments flower near leafing time, oblong, downy: scales oblong, acute, dark-colored, hairy: germs sub-sessile, lanceolate, downy: stigma 2-parted. S.

angustata. Ph. (W. Ap. ♄.) leaves lanceolate, acute, very long, gradually tapering to the base, serrulate, glabrous both sides colored nearly alike: stipules half-cordate: aments precede the leafing, sterile sub-villose: germs pedicelled, ovate, glabrous; style 2-cleft: stigma 3-lobed. Resembles *prinoides*. P. T.

longifolia. (W. long-leaf willow. W. M. ♄.) leaves linear, acuminate at both ends, elongated, remotely denticulate, glabrous, both sides colored alike: stipules narrow lanceolate, denticulate: aments flower after leafing, peduncled, downy: scales flat, retuse: filaments bearded at the base, twice as long as the scales. 2 f. S. P. T. D.

3. *Leaves closely and acutely serrate.*

Remark. The first six of the following species have about 3 stamens to each flower.

babylo'nica. (weeping willow. W. M. ♄.) branches pendant: leaves lanceolate, acuminate, serrate, glabrous, upper and lower sides of different colors: stipules roundish, contracted: aments flower at leafing time: germs sessile, ovate, glabrous. Supposed to be the willow on which the Israelites hung their harps, when captive in Babylon. Introduced. S. T. P. C.

purshiana. Ph. (1) (W. ♄.) leaves long, lance-linear, gradually tapering above, sub-falcate, acute at the base, close serrate, glabrous both sides, in the young state silky: stipules lunulate, toothed, deflected. Branches very slender and brownish. S. P. C. N.

nigra, W. (2) (brittle-joint willow, black willow. W. M. ♄.) leaves lanceolate, acute at both ends, serrulate, same color both sides, glabrous: petioles and nerves downy above: stipules contracted, toothed: aments flower at leafing time, erect, cylindrical, villose: scales oblong, very villose: filaments 3 to 5, bearded at the base: germs pedicelled, ovate, glabrous: style very short: stigma 2-cleft. 20 f. S. T. P. C. D. N. V. Florida. Mch.

lucida, W. (shining willow. W. M. ♄.) leaves ovate-oblong, cuspidate acuminate, rounded at the base, serrate, glabrous [illegible] both sides shining: stipules oblong, glandular-serrate: aments flower at leafing time: scales lanceolate, obtuse, hairy at the base, serrate at the apex, glabrous: germs lance-subulate, glabrous: style 2-cleft: stigma obtuse. Size between shrub and tree. S. C. F. D. N. Mch.

rigida, W. (3) (stiff-leaf willow. Ap. ♄.) leaves lance-oblong, acuminate, sub-cordate at the base, rigid, glabrous, sharply serrate, lower serratures elongated: petioles villose: stipules broad-cordate, obtuse, glandular-serrate: aments flower at leafing time: scales lanceolate, dark-colored, woolly: germs long-pedicelled, lanceolate, glabrous: style very short: stigma 2-parted. Branches red towards the end, in the young state pubescent. Used also in basket-making. S. P. Y. T. W. N.

cordata, W. (heart-leaf willow. Ap. ♄.) leaves lance-oblong, acuminate, cordate at the base, sharply serrate, glabrous, paler beneath: stipules broad, round-ovate, cartilaginous-serrate: aments flower at leafing time: scales lanceolate, dark-colored, woolly: germs pedicelled, lanceolate, glabrous: style very short: stigma 2 cleft. 6—8 f. S. P. T. W. F. N. V.

grisea. W. (4) (grey willow. W. Ap. ♄.) leaves lanceolate, acuminate, serrulate, glabrous above, downy on the midrib, silky or naked beneath: stipules linear, deflected, caducous: ament precedes the leafing: scales oblong, hairy, dark-colored at the apex: germ oblong, pedicelled, silky: stigma sessile, obtuse. Joints brittle at the base. 8 f. S. P. W. C. N.

alba. (M. ♄.) leaves lanceolate, acuminate, serrate, silky on both sides: lower serratures glandular: stipules obsolete: aments elongated, flowering at leafing-time:

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(1) falcata, Ph. (2) caroliniana, Mx. pentandra, Wr. vulgaris, Clayton. (3) cordata, Mx. cordifolia, Banks. (4) sericea, M.

scales lance-oval, one-colored, pubescent: germs sub-sessile, ovate-oblong, at length glabrous; style short: stigma 2 parted, thick. Introduced. S. C.

vitellina, (yellow willow. M. ♄.) leaves lanceolate, acuminate, thickly serrate, glabrous above, whitish silky beneath: stipules none: aments flower in leafing time, cylindric: scales lance-ovate, both sides colored alike, pubescent without: germs sessile, lance-ovate, glabrous; stigma sub-sessile, 2 lobed. Middle size tree. Var. *alba*, has the leaves white-silky both sides, and very long aments. This variety is usually the tallest. S. T. P. C. F. N. B. V.

ambaena, Ph. (W. Ap. ♄.) leaves lanceolate, acuminate, glabrous, both sides of the same color, glandular serrate: aments flower in leafing time: the pair of nectaries large, with lanceolate, deformed lobes, toothed at the apex, glabrous: the terminal florets have 3 stamens. Resembles the *vitellina*. Y. F.

decipiens, Hn. (Ap. ♄.) leaves lanceolate, acuminate, serrate at each end, very glabrous, both sides colored alike, petioles glandular toothed: stipules round: aments flower at leafing time: scales obovate, villose: staminate nectaries paired: germs sub-sessile, lanceolate, glabrous, stigmas sessile, 2-parted. Branches very brittle. Introduced. S. T.

petiolaris, W. (Ap. ♄.) leaves lanceolate, wholly serrate, smooth, glaucous-silky beneath, generally unequal at the base: stipules lunate, toothed, small: aments precede the leafing time: scales obovate, obtuse, having black hairs: germs long-peduncled, ovate silky: stigmas sessile, 2-lobed. Y.

russeliana, W. (♄.) leaves lanceolate, acuminate, serrate, glabrous: aments flower in leafing time: florets generally with 3 stamens: germs pedicelled, subulate, smooth; styles elongated. Tall tree. Introduced.

myrsinites, W. (M. ♄.) leaves oval-ovate, wholly serrulate, both sides glabrous, shining and colored alike: stipules lanceolate-serrate: branches rough: aments flower a little before leafing time, erect, cylindric: scales lance-oblong, long-villous: germs lance-ovate, sessile, silky: stigmas sub-sessile, 2-cleft. Labrador. 1 f.

herbacea, W. (A. Ju. ♄.) leaves round, sub-retuse, serrate, glabrous and shining on both sides: stipules none: aments flower after leafing, few-flowered; scales obovate, obtuse, villose: germs oblong ovate, sub-sessile, glabrous; stigmas very short, sub-sessile. On the north-west coast. Smallest of all the species. 1 i.

crinocephala, Mx. (rose willow. Ap. ♄.) leaves oblong-oval, somewhat retuse at the base, serrulate: twigs downy: aments oval, very villose. Probably a variety of *conifera*. Diandrous. C.

Southern.

houstoniana, Ph. (♄.) leaves lance-linear, acute, finely serrate, glabrous, shining, one-colored: stipules none: aments flower at leafing time, cylindric, villose; scales ovate, acute: filaments 3—5, bearded to the middle.

5—2. SALSO'LA. 29. Chen. ase. lax.

kali, (salt-wort. L. Ju. ☉.) herbaceous, decumbent: leaves channelled, spinose: calyx margined, axillary. Var. *caroliniana*, leaves dilated, shorter, terete, nerveless, spinose: stem smooth or hairy: calyx with a broader margin. Seed cochleate. S. B. C.

tragus, (L. Ju. ☉.) herbaceous, spreading, smooth: leaves subulate, fleshy, mucronate-spinous: flowers sub-solitary: calyx sub-ovate, margin flattened, discolored. Y.

soda, (L. ☉.) herbaceous, smooth: branches ascending: leaves semi-terete, acutish: fruit-bearing calyx transversely carinate in the middle, sub-membranaceous. Y.

Salsola, CHENOPODIUM.

2—1. SAL'VIA. 42. Labi. con. sto. aro. *dysp.*

urticifolia, (nettle sage. A. b. J. ♃.) villose-viscous: leaves ovate-oblong, toothed, decurrent along the petiole: calyx 3-toothed; upper segment 3-toothed. S. Y. S–C.

lyrata, (wild sage, cancer weed. W. b. M. ♃.) radical leaves lyrate, toothed: upper lip of the corol very short: stem nearly leafless, reverse-hairy. Var. *obovata*, has the leaves obovate, repand. 1—3 f. S. P. Y. Canada, Florida. S—C.

Salsola. From Lat. *salsus*, salt.
Salvia. Lat. *salvo*, to save, from its medical properties.

claytoni, E. (1) (vervain sage. W. b-p. J. ♃.) leaves heart-ovate, sinuate, toothed, rugose: teeth of the upper lip of the calyx connivent. 1. f. S. K.

Exotic.

officinalis, sage. b. J. ♃. or ♄.) leaves lance-ovate, crenulate: whorls few-flowered: calyx mucronate.

sclara, (clarry. ♂.) leaves rugose, cordate below; above oblong, villose, serrate: floral bracts longer than the calyx, concave, acuminate.

splendens, (scarlet sage. r. ♃.) leaves ovate and lance-ovate, flat, smooth beneath: flower long; calyx and corol scarlet, downy: style exsert.

Southern.

azurea, Lk. (2) (b. w. Au. ♃.) leaves lance-linear: lower ones serrate: stem and leaves smooth: calyx pubescent, short-3-cleft. 4—6 f. S—C.

coccinea, (r. Ju. ♃.) leaves cordate, acute tomentose, serrate: corol twice as long as the calyx and narrower. 1—2 f. S—C.

trichostemmoides, Ph. (W. b. ☉.) leaves lanceolate, serrate: racemes terminal: flowers opposite: corol equal to the 3-cleft calyx: stem brachiate-branched.

obovata, E. (Ju.) leaves large, obovate, toothed. pubescent. whorls 6-flowered. 18 i.

21—1. SALVI'NIA. 5. Fili. sec-stim—.

natans, (3) (W. ☉.) leaves oval, obtuse, with fascicled bristles above; petioles pilose: fruit sub-sessile, aggregate.

5—3. SAMBU'CUS. 58. Capr. diu. b. cat.

canadensis, (black-berried elder. O. w. J. ♄.) branchlets and petioles glabrous; leafets about in 4 pairs, oblong-oval, glabrous, shining, acuminate: cyme lax, divided into about 5 parts. 8—15 f. S. Mch.

pubescens, Ph. (4) (red-berried elder. W. A. w. M. ♄.) bark warty: leafets in 2 pairs, lance-oval, pubescent beneath: flowers raceme-panicled, or in a crowded bunch. 6—12 f. S. T. N. C. O. F. V. Mch.

5—1. SAMO'LUS. 35. Prim. sop.

valeran'di, (brookweed, water pimpernell. w. Ju. ♃.) leaves obovate: racemes elongated; pedicels bracted near the middle. Damp. 5—12 i. S. O. P. Y. C. N. T. F. B. M. Mch. S—C.

Southern.

ebracteatus, Kunth. (W. w. ♃.) stem short, robust, smooth, divided at the base: leaves obovate, obtuse, somewhat fleshy, attenuate at the base: racemes elongated, sub-pubescent; pedicels filiform, without bracts.

12—1. SANGUINA'RIA. 62. Papa. r. acr-nar. sed. cat. feb.

canadensis, (blood-root. O. w. Ap. ♃.) leaves sub reniform, sinuate-lobed: scape 1-flowered. A variety, *stenopetala*, has linear petals. 6—10 i. S. Mch.

4—1. SANGUISOR'BA. 92. Sang. ton.

canadensis (burnet saxifrage. w. Ju. ♃.) flowers in a long cylindric spike: stamens several times longer than the corol. The leaves resemble the burnet. 3—5 f. S. T. Y. P. N. B. C. O. Mch.

Salvinia. In honor of Salvini, Professor of Greek at Florence.

Sambucus. Gr. *sambuke*, Heb. *salucca*, an instrument of music, supposed to have been made of the hollow stem of this plant.

Samolus. From *Samos*, an island in the Archipelago, whence first obtained; or from the Celtic words *san*, salutary, and *mos*, pig, having been used as a general remedy in diseases of swine.

Sanguinaria. Lat. *sanguis*, *inis*, blood, from the color of its juice.

Sanguisorba. Lat. *sanguis*, blood; and *sorbeo*, to absorb, from its having been used as vulnerary.

(1) verbenaca, M. (2) acuminata, M. angustifolia, Mx. mexicana. Wr.
(3) Marsilea, L. (4) pubens, Mx.

media, (great burnet, A. r-w. Ju. ♃.) spikes cylindric: stamens a little longer than the corol: spikes shorter, tinged with red. Ph. A doubtful species. T. S. P. Canada.

5—2. Sanic'ula. 60. Umbe. r. stim. deob.

marylandica, (sanicle. O. w. J. ♃.) leaves digitate; leafets oblong, gashed: part of the flowers are fertile, sessile and sub-ternate; the others are barren, pedicelled, and the most numerous. Var. *canadensis*, leaves sub-ternate; leafets ovate, coarsely toothed. 2—3 f. S. Mch.

canadensis, L. (♃.) leaves all cut-palmate: segments petioled; divisions gash-serrate; lateral ones two-parted: flowers polygamous; staminate ones shortly pedicelled: lobes of the calyx entire. Canada.

menziesii, H. ( ) caulescent: leaves longly petioled, cordate, deeply trifid; segments broad-ovate, cuneate, variously lobed, gash-serrate, serratures very acute, mucronate-ciliate: umbels sub-compound; leafets of the involucels lanceolate, acute, equalling the umbel. 1—2 f. A.

arctopioides H. ( ) somewhat stemless: leaves longly petioled, deeply 3-parted; divisions elongated-cuneate: lateral ones bifid, intermediate trifid; all sub-ciliate-pinnatifid: peduncles scarcely longer than the leaves: leafets of the involucre foliaceous, lanceolate, very entire, longer than the simple, compact umbel. A.

bipinnatifida, Doug. ( ) caulescent: lower leaves bipinnatifid, longly petioled; segments remote, obovate, or lance-obovate, acute, gash serrate; serratures very acute: rachis very acutely dentate: peduncles elongated: umbels compound, sub-proliferous; umbellets globose. R.

Southern.

triclinum, Dc. (g. ♃.) leaves longly petioled, glabrous, cut-3-parted; segments oblong, unequally dentate, lobed at the apex; radical ones sub-palmate; lateral ones two-parted: flowers all perfect. Louisiana.

17—1. Santoli'na. 55. Anth. h. bit. odo.

Southern.

suaveolens, Ph. (lavender cotton. W. y. J. ☉.) glabrous: stem corymb-branched: leaves sub-bipinnatifid: divisions acute, linear: peduncles terminal, 1-flowered. Sweet scented.

8—3. Sapin'dus. 65. Sapi. sap. acr.

Southern.

marginatus, (♄.) unarmed: rachis narrow; margined above: leafets lanceolate, 6-paired: fruit sub-conical. Georgia.

10—2. Sapona'ria. 82. Cary. dem. cata.

Exotic.

officinalis, (soapwort, bouncing bet. w. J. ♃.) calyx cylindric: leaves lance-ovate, opposite, sub-connate, entire. Probably introduced, and naturalized. 10—18 i. Mch.

vaccaria, (field soapwort. r. Au. ☉.) calyx 5-cornered, cone-ovate: leaves ovate, acuminate, sessile. Naturalized. 6—18 i. W. M.

12—1. Sar'racen'ia. 62. Sarr. cat—.

purpurea, (side-saddle. O. p. J. ♃.) leaves radical, short, gibbose-inflated or cup-

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Sanicula. Lat. *sano*, to heal, having been formerly celebrated for its healing qualities.

Santolina. Supposed from *santalum*, saunders; it smelling like the saunders wood; or to be the diminutive of *sancta*, a holy little herb; in allusion to some reputed virtues.

Sapindus. From Lat. *sapo indus*, Indian soap, the rind of the fruit being used as soap.

Saponaria. Lat. *sapo*, soap, its bruised leaves being said to produce a lather.

Sarracenia. In honor of Dr. Sarrazin, an ingenious Frenchman, who introduced many rare plants into France.

form, contracted at the mouth, having a broad arched lateral wing; the contracted part of the base hardly as long as the inflated part. Scape with a single, large nodding flower. In marshes. 1—2 f. *S.* Mch.

heterophylla, Ea. (y. J. ♃.) leaves radical; outer ones long-funnel-form, not contracted at the mouth, having a narrow, straight, lateral wing; the contracted part at the base about twice as long as the inflated part; the inner leaves short, gibbose-inflated, contracted at the mouth, having an arched lateral wing, the contracted part at the base hardly as long as the inflated part: style longer than the filaments, The whole plant palish yellow, and very slender. Intermediate between *purpurea* and *flava*. In swamps at Northampton, Mass. 12—30 i. A remarkably distinct species, but very rare.

Southern.

rubra, Wr. (r-p. ♃.) leaves slender; lateral wing linear; appendage ovate, erect, obtuse, mucronate, contracted at the base. 6—10 i. S—C.

flava, Mx. (y. J. ♃.) leaves large, funnel-form; throat expanding; lateral wing nearly wanting; appendage erect, contracted at the base, reflexed at the sides. 18—24 i. S—C.

variolaris, Mx. (1) (y. J. ♃.) leaves slightly ventricose, with the tube near the summit spotted on the back; appendage arched, incurved; lateral wing slightly dilated. 12—18 i. Charleston, S—C.

drummondii, Croom. (p. A.) leaves very long, erect; tube dilated above, with very narrow wing; the upper portion, as well as the orbicular erect lamina, whitish and strongly reticulated with purplish veins: flowers purple. Florida.

psittacina, Mx. (p. March. A.) leaves short, reclined, marked with white spots; tube inflated, with a very broad, semi-obovate wing; lamina ventricose, recurved so as nearly to close the tube; flower purple. Georgia, Florida and La.

13—1. SATURE'JA. 42. Labi. aro. sto. con.

Exotic.

hortensis, (summer savory. b-w. Ju. ☉.) peduncles axillary, somewhat in a cyme: leaves lanceolate, entire: stem brachiate.

montana, (winter savory, ♄.) peduncles somewhat 1-sided: segments of the calyx acuminate, mucronate: leaves mucronate.

Satyrium, NEOTTIA, GOODYERA.

7—4. SAURU'RUS. 98. Saur. ton—.

cernuus, (lizard's tail, breast weed. W. Au. ♃.) stem angular, sulcate: leaves alternate, heart-oblong, acuminate. Rare in New York, east of Cayuga Lake—abundant west of it. 1—2 f. O. P. H. F. Y. C. D. Canada. Mch. S—C.

17—1. SAUSSU'REA. 51. Eric. diu. ast.

alpina, Dc. ( ) leaves lanceolate, dentate woolly beneath; radical ones lance-ovate, petioled: flowers corymbed, crowded: scales of the involucre oblong, villose above. Var. *densa*, stem sub-decumbent: leaves sub-glabrous, dense, almost all narrow-lanceolate, corymb glomerate. Var. *[illegible]*, stem erect, striate: leaves glabrous, rigid, narrow-lanceolate; upper ones minute. R.

monticola, Rich. ( ) sparingly woolly: leaves linear, very entire: leafets of the involucre oblong-cylindric, villose, lanceolate, acute. A.

10—2. SAX'IFRA'GA. 84. Saxi. ton—. emo.

1. *Leaves radical, undivided: stem nearly naked.*

aizo'on, W. (W. ♃.) leaves aggregate, spatulate, acutish glabrous, with cartilaginous teeth: stem simple, leafy, pilose: calyx glabrous. 3 i.

Satureja. From Arabic, *ss'atar*, the name given to labiate, aromatic plants.

Saururus. Gr. *saura*, lizard, and *oura*, tail, from the shape and scaly appearance of the long spike of flowers.

Saxifraga. Lat. *saxum*, rock, and *frango*, to break, from their supposed quality of breaking stone in the bladder. See Parkinson's herbal.

(1) minor, Wr. adunca, S.

stellaris, W. (w. Ju. ♃.) leaves wedge-form, serrate, pilose at the margin: stem simple, naked: petals acute: capsules superior. Labrador.

serpyllifolia, Ph. (W. ♃.) erect: leaves small, oval, glabrous: stem 1-flowered, few-leaved: petals obovate.

androsa'cea, Ph. (W. w. ♃.) pubescent: leaves petioled, linear-spatulate: stem leafy, 1—2-flowered.

bronchialis, W. (W. ♃.) stoloniferous: leaves imbricate, subulate, flat, mucronate, spinose, ciliate: stem nearly naked, panicled. S.

nivalis, (alpine saxifrage. W. w. J. ♃.) leaves roundish-wedge-form, crenate-before, decurrent into the petiole: stem naked, simple, racemes crowded. 2 i.

virginiensis, Mx. (1) (rock saxifrage. O. w. M. ♃.) minutely pubescent: leaves oval, obtuse, crenate, decurrent into the petiole: flowers sub-sessile on the dichotomous branches of an almost leafless scape. 1—15 i. S.

geum, W. (W. ♃.) leaves reniform, toothed, veinless and pilose on both sides: stem naked, panicled.

pennsylvanica, (water saxifrage. O. g-w. J. ♃.) pubescent: leaves lance-oblong, acute, tapering to the base, obsoletely denticulate: scape leafless: panicle oblong, with fascicled branches at the top. 1—4 f. S. Mch.

laurentiana, Dc. (♃.) radical leaves long petioled reniform, 5—7-lobe-crenate, glabrous: stems and peduncles with strong hairs: flowers few, sub-capitate: bracts 3—5-lobed: calyx shorter than the corol. Canada.

leucanthemifolia, Mx, (A. w. r. y. Ju. ♃.) very hirsute: stem somewhat naked: leaves elongated-spatulate, acutely toothed: stems divaricate dichotomous: panicle capillary, lax: calyx reflexed: petals unequal. 18—24 i.

erosa, Ph. (A. y-g. Ju. ♃.) nearly glabrous: stem naked: leaves lance-oblong, acute, erose-dentate: panicle oblong; branches divaricate, very branching, lax-flowered; pedicels filiform.

jamesii, T. (W. p.) leaves reniform, crenate-toothed, papillose-punctate on both sides,
nearly glabrous: stem short, few-flowered: divisions of the calyx triangular-ovate,
acute, glandular-pubescent: petals orbicular with long claws. 1—2 i.

fimbriata, Don. (2) (♃) canescent: floral heads very crowded, spherical:
peduncles solitary, one-flowered, naked, an inch long: sepals ovate, obtuse, ciliate
at the margin: leaves appressed-imbricate, orbiculate-obovate, with membranace-
ous and ciliate margins, long-fimbriate. 1 i. A.

semi pubescens, Sweet. (y. ♃.) root furnished with long, thick fibres: leaves
not petioled, oblong-oval obtuse, very glabrous, denticulate: flowers pedicelled, dis-
posed in dense corymbs: calyx pilose-glandulous; sepals triangular-ovate, acute:
petals ovate, obscurely three-nerved, somewhat equalling the calyx. Maryland.
Cultivated.

arguta, Don. (♃.) scape glabrous: panicle very simple: leaves reniform-rotund,
gash-serrate, glabrous: petioles filiform: sepals oblong, acute: petals ovate, many-
nerved: pistils very short.

nelsoniana, Don. (w. ♃.) sub-cespitose: scape very simple, covered on all sides
with long soft hairs: thyrse ovate: leaves orbiculate-cordate, sub-peltate, gash-
serrate, hirsute beneath; petioles very long, filiform: sepals triangular-ovate, acute:
petals oval, small. A.

nutans, Dc. ( ) cespitose: stem one-leaved: raceme nodding, few-flowered:
leaves radical, reniform, longly petioled, coarsely gash-toothed, bearing short, rigid
close-pressed hairs: short pedicels and calyx pilose-glandulous: lobes of the calyx
lanceolate acute, 3-nerved: petals obovate, 3-nerved, nerves flexuose, very branch-
ing. A.

reflexa, H. ( ) hoary-pubescent: leaves ovate, sub-coriaceous, opake, gash-
serrate, attenuated into the petiole: scape naked: panicle very glabrous, compact,
corymbose: petals obovate, bimaculate, scarcely twice as long as the reflexed, ob-
tuse calyx: filaments many, abortive, dilated, petaloid: ovarium free. A.

integrifolia, H. ( ) whole plant very viscid-pubescent: leaves radical, ovate,
sub-membranaceous, very obtuse, very entire or very smoothly sinuate-crenate,
copiously reticulate-veined: scape elongated, naked, panicled at the apex: panicle
lax, broad or contracted, bracted: petals obovate, twice as long as the spreading,
very glabrous, at length sub-reflexed calyx: stamens short: ovarium entirely free:
styles diverging. 8—10 i. R.

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(1) nivalis, M. vernalis, Bw. virginica, N. (2) eschscholtzia, Sternb.

hieracifolia, Dc. (r.) scape stiffly erect, sub-pilose: leaves petioled, obovate-spatulate, repand-toothed, ciliate, coriaceous: flowers spiked, subsessile: lobes of the calyx ovate, broad, of the length of the tube: petals ovate, reddish, withering, scarcely equalling the calyx: filaments purple: capsule prominent, purple: carpels divaricate at the apex: styles very short; stigmas sub-hemispheric. A.

dahurica, Pall. ( ) very glabrous: leaves wedge-fanform, decurrent into the petiole, deeply gash-toothed above: scape leafless, lax-panicled, bracted: bracts linear, very entire: petals bi-punctate, obovate, somewhat twice as long as the reflexed calyx: filaments often petaloid. R. A.

foliolosa, Br. ( ) leaves radical, cuneate sub-dentate: scape divided, branches one-flowered at the apex, beneath covered with [illegible] of fasciculate leafets: calyx below obovate: divisions of the petals cordate-lanceolate. A.

punctata, L. ( ) leaves radical, longly petioled, reniform-cordate, rotund, membranaceous, pilose, reticulate, deeply, coarsely and equally dentate, not margined; teeth entire, parted, often acute: scape naked: flowers small, panicled: panicle glandulous, bracted: bracts minute, linear: filaments very often abortive, petaloid: calyx reflexed. A. R.

hetarantha, H. (♃.) sub-pubescent: leaves radical, longly petioled, reniform-cordate, membranaceous, veiny, many lobed; lobes shortish, somewhat 3-toothed: teeth acute, beardless: scape naked: flowers panicled, often abortive: some filaments clavate, others petal-form: ovarium free: calyx reflexed: branches often bulbiferous below. 9 i. R.

2. *Leaves undivided: stem leafy.*

oppositifolia, W. (p. M. ♃.) cespitose: leaves cauline, opposite, imbricate, ovate, obtuse; upper ones ciliate: flowers terminal, solitary, sessile. Labrador.

aizoides, W. (y. ♃.) decumbent, cespitose: leaves cauline, linear, alternate, tooth-ciliate: panicle few-flowered: petals as long as the calyx.

setig'era, Ph. (1) (W. w. ♃.) pubescent: leaves radical, aggregate, spatulate, acute, spinose-ciliate: stem leafy, about 2-flowered: calyx hispid: very long setaceous twigs in the axils of the leaves.

hirculus, ( ) leaves cauline, alternate, lanceolate, naked, unarmed: stem erect. North Somerset.

exarata, V. (2) ( ) cespitose: leaves 3—5-cleft; upper ones linear, entire, glandulous-pubescent; segments linear, acutish: flower-bearing stem slender, scarcely leafy, 3—5 flowered: flowers corymb-racemed: ovarium adhering to the tube of the pubescent calyx: petals obovate, 3-nerved, scarcely twice as long as the calyx. R.

sileniflora, Cham. ( ) stem cespitose, stoloniferous, short: leaves rigid, in dense bunches of 3's, 5's and 7's, very shining, as if varnished, many-nerved, hirsute-pubescent; segments linear, acutish: stem floriferous, elongated, pubescent-glandulous, panicled above: flowers largish: ovarium adhering to the tube of the glandular-pubescent calyx; segments obtuse: petals obovate, 3-nerved, twice as long as the calyx. A.

petræa, Lin. (-☉.) glandulous-pilose: leaves fleshy 3-lobed; radical ones cordate; lobes gashed, somewhat longly-petioled; cauline ones sub-cuneate; upper ones undivided: peduncles and ovaria glandulous-hispid below: divisions of the calyx oblong, erect: petals obovate, retuse. R.

ranunculifolia H. (w.) sub glandulous-pubescent, slender: lower leaves very longly petioled, reniform, three-parted; segments broad-cuneate, gash-lobed; cauline ones few: flowers corymbed, pentandrous: petals obovate, twice as long as the acute-glandulous calyx. R.

richardsonii, H. ( ) stem glandulous, leafy, pubescent above: leaves longly petioled, orbicular-cordate, crenate-lobed, veiny; margin and veins glandulous beneath: glands pedicelled: raceme compound, somewhat spike-form: lanceolate bracts and pedicels glandulous: petals obovate-elliptic, short-unguiculate, very acute nerved; about twice as long as the acuminate segments of the calyx: stamens 5. A.

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(1) flagellaris, Sternb. (2) nervosa, Lapeyr.

3. *Leaves lobed.*

rivularis, S. (w. J. ♃.) erect: leaves radical, palmate, upper ones spatulate: stem few-flowered: root fibrous: germ half inferior. Labrador. A. R.

siberica, W. (w. ♃.) ascending: leaves reniform, palmate, pilose; cauline ones sessile; petioles hirsute: pedicels very long, filiform, 2-cleft, naked. Labrador.

pectinata, Ph. (W. ♃.) cespitose: stems numerous, leafy: leaves 3-lobed; lobes 3-cleft, linear, acute, glabrous; midrib furrowed: flowers racemed.

cæspitosa, W. (W. y. J. ♃.) leaves radical, aggregate, fleshy, linear, obtuse, entire or 3-cleft, nerved beneath: stem erect, nearly naked, few-flowered: petals twice as long as the calyx. Var. *grœnlandica*. leaves cauline, palmate, many cleft; divisions acute.

tricuspidata, W. (w. J. ♃.) leaves radical, aggregate, wedge-form, ciliate, acutely 3-toothed: stem ascending, racemed: petals lanceolate, thrice as long as the calyx. Hudson's Bay.

cernua, (A.) leaves cauline, palmate, petioled: stem very simple, 1-flowered, bulbiferous.

mixta, P. (A.) leaves digitate, 3-cleft, palmately nerved, sub-hirsute: anthers sagittate: stigma hooded, reflexed: stem sub-viscous, 2—3-flowered. Is this a variety of *cæspitosa?*

nudicaulis, Don (w. ♃.) scape erect, naked, terete: leaves reniform, palmate, glabrous: lobes ovate, mucronate: flowers panicled: lobes of the calyx triangular-ovate, acute: petals obovate, a little longer than the calyx. A.

Exotic.

sarmentosa, (beef-steak, creeping saxifrage. w. Au. ♃.) leaves roundish, toothed, hairy, sending off creeping shoots: 2 petals in each flower elongated.

4—1. SCABIO'SA. 56. Scab. ton.

Exotic.

stellata, (star scabious, cats eye. y-w. ☉.) corol 5-cleft, radiate: leaves cut and jagged: outer crown of the nut orbicular, large, spreading, membranaceous, many-nerved.

atropurpurea, (sweet scabious. r. ♃.) corol 5-cleft, radiating: leaves pinnatifid and cut: receptacle cylindric: outer crown of the nut short, lobed and crenate.

Scandix, URASPERMUM.

6—3. SCHEUCHZE'RIA. 7. Junc. ton. fod.

palustris, (less flowering rush. g-y. M. ♃.) stem glabrous: leaves semi-cylindric, sheathing at the base: each having a lateral pore on the inner side, immediately below the cartilaginous tip. In ponds and marshes. 1 f. P. T. V. Mch.

21—1. SCHIZÆ'A. 5. Fili. sec-stim.

pusilla, Ph. (one sided fern. Ju. ♃.) frond simple, linear-compressed: spikes conglomerate, indexed one way. The only known locality of this interesting little fern is near Quaker-bridge, New-Jersey, in a swamp. 3—6 i. Y.

19—5. SCHIZAN'DRA. 77. Meni. r. ton. diu. *dysu.*

Southern.

coccinea, Mx. (r. & y. M. ♄.) glabrous: leaves alternate, lanceolate, sub-denticulate, petioled, sometimes sub-cordate. Climbing. 10—15 f.

Scabiosa. Lat. *scabies*, itch, from its sudorific qualities and supposed efficacy in cutaneous diseases.

Scheuchzeria. In honor of two brothers, Scheuchzer, distinguished botanists.

Schizæa. Gr. *schizo*, to cleave asunder, in allusion to the cloven appearance of the spikes.

Schizandra. Gr. *schizō*, to split, and *anēr*, a stamen, because the stamens are nearly separated by fissures in the receptacle.

3—1. Schoe′nus. 9. Cype. fod—.

mariscoides, M. (water bog rush. Ju. ♃.) culm terete or sub-sulcate. leafy: leaves channeled, semi-terete: umbel terminal: fascicles of spikes three on each peduncle: pericarp rounded at the base. 2 f. P. Y. Mch.

Southern.

hispid′ulus, Vahl. (   ) peduncles axillary and terminal, 3-spiked: spikes globose, pedicelled: leaves filiform, hispid.

effusus, Sw. (saw grass. Au.) culm leafy, obtusely 3-angled: leaves prickly forwards: panicle terminal, very long, diffuse: pericarp ovate, longitudinally wrinkled. 6—10 f.

Schoenus, Rhynchospora.

3—1. Schol′lera. 17. Pont. ton—.

graminifolia, W. (1) (yellow-ėyed water grass. O. y. Ju. ♃.) leaves all linear, grass-like: stem slender, floating. 6—18 i. Mch.

15—10. Schrank′ia. 93. Legu. asc.

Exotic.

sensitiva, (2) (sensitive plant.) prickly: leaves pinnate; leafets in pairs, inmost ones minute.

Southern.

uncinata, (3) (sensitive briar. p. Ju. ♃.) stem prostrate angled, prickly: leaves alternate, abruptly bipinnate: leafets small, sub-oval, gibbous at the base, thinly pilose, irritable. 2—3 f. S—C.

Schubertia, Cupressus.

13—2. Schwal′bea. 40. 37. Sciop. cath. eme. *scro.*

americana, W. (chaff seed. p-y. J. ♃.) simple, pubescent: leaves lanceolate: racemes terminal: flowers alternate. 2 f. S. Y.

Schweinitzia, Monotropsis.

6—1. Scil′la. 16. Asph. exp. nar. stim.

Exotic.

maritima, (squill. w.) scape long, naked, many-flowered: bracts bent back. Root bulbous.

Scilla, Phalangium.

3—1. Scir′pus. 9. Cype. fod—.

1. *Pericarp surrounded with bristles at the base.*

(*Style articulated to the seed, base dilated and persistent. Seed often lenticular.*
Eleocha′ris. Br.)

tenuis, W. (4) (club rush. O. Ju. ♃.) culm very slender, quadrangular: spike oval,

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Schoenus. Gr. *schoinos*, a cord, given as a name to a rush, of which cords were made.

Schollera. In honor of Frederick Adam Scholler, a teacher at the Moravian College in Germany.

Schrankia. In honor of Francis Schrank, Prof. of Botany, at Ingolstadt, and Landshect.

Schwalbea. In honor Christian Schwalbe, a German botanist.

Scilla. Gr. *skullō*, to injure, its root being as well a poison as a medicine; or from *asgil*, the Arabic name of the root.

Scirpus. Lat. *scirpus*, a rush. De Theis derives it from Celt. *cirs*, a reed or rush.

(1) Leptanthus gramineus, Mx. Heteranthera, Ph. (2) Mimosa, 4th edition. (3) Mimosa horridula, Mx. intsia, Wr. (4) marginatus, M. E.

acute at each end: glumes ovate, obtuse: stamens 3: styles 3-cleft: pericarp rugose. 8—12 i. S. Mch.

glaucus, T. (L. Ju. ♃.) culm many-angled, glaucous: spike ovate, acute: glumes ovate, obtuse or emarginate: stamens 3: styles 2-cleft. 1 f.

palustris, (marsh club rush. W. J. ♃.) culm round, inflated; spike lance-oblong: glumes somewhat obtuse: pericarp roundish, punctate, rugose: bristles scabrous. 18—24 i. S. P. Y. B. C. N. D. Mch.

capitatus, (W. Ju. ♃.) culm terrete or sub-compressed: spike ovate, obtuse: pericarp oval, compressed, smooth. S. B. P. O. F. N. Mch.

acicularis, (1) (W. Ju.) culm setaceous, quadrangular: spike ovate, acute, 3—6 flowered: glumes somewhat obtuse: stamens 3: styles bifid: pericarp obovate. 3—6 i. S. B. P. C. O. F. N. Mch.

pusillus, Vahl. (L. Au.) culm compressed and sub-angular: spike ovate, compressed: pericarp obovate: stamens 3: style 2—3 cleft. 1 i. S. C. N.

intermedius, M. (W. S.) culms cespitose, quadrangular sulcate: spikes ovate, oblong; glumes acutish: stamens 3: style 2 cleft: pericarp broad-obovate, compressed: tubercle distinct. 3—4 i. W. Y. P. N.

planifolius, M. (J.) culm triangular: radical leaves linear, flat, nearly equalling the culm: spike terminal, oblong, compressed, shorter than the cuspidate bracts at the base. 8 i. P. W. N. V. B. Mch.

subterminalis, T. (Au.) culm floating, sulcate, inflated, leafy below: spike solitary, somewhat terminal, lanceolate: style 2-cleft: pericarp 3-angled. 3 f. N. Mch.

cæspitosus, (scaly rush, Ju.) culms cespitose, terete: spikes ovate, few-flowered: lower glumes bract-like (as long as the spike: sheaths with rudiments of leaves. Var. *callosus*, glumes thickened and cartilaginous at the tips. 5 i. N.

(Style filiform, not bearded, caducous. Scirpus. L. Br.)

americanus, P. (2) (W. Au.) culm nearly naked, 3-angled, sides concave, spikes lateral, 1—5, ovate, conglomerate, sessile: glumes round-ovate, mucronate: pericarp 3-angled, acuminate. One variety has 3—5 spikes nearly terminal: another has generally a solitary spike remote from the extremity of the culm. 3—5 f. S. B. C. F. N. K. Mch.

debilis, M. (Au.) culm cespitose, deeply striate: spikes about 3, lateral, ovate, sessile: glumes ovate, obtuse, mucronate. 8—12 i. S. P. Y. B. C. N. Mch.

lacustris, (3) (W. J.) culm terete, attenuated above, naked: panicle sub-terminal: spikes peduncled, ovate. 4—8 f. S. P. C. O. F. N. T. K. Mch.

acutus, M. (Ju.) culm terete, (not attenuated,) spotted: peduncles numerous, sub-lateral: spikes oblong; glumes pubescent, mucronate. 4 f. P. Y. T. B. C. Mch.

atrovirens, M. (W. Ju.) culm triangular, leafy: cyme terminal, compound, proliferous; involucre 3-leaved: spikes conglomerate, ovate, acute: glumes ovate, mucronate, pubescent. 2 f. P. M.

brunneus, M. (4) (Au.) culm leafy, obtusely triangular: cyme decompound: involucre 3—4-leaved: spikes round-ovate, clustered in heads of about sixes: glumes ovate, obtuse. 2—3 f. S. P. Y. C. N. Mch.

macrostachyus, M. (5) (W. L. Au.) culm triangular, leafy: corymb clustered; involucre about 3-leaved, very long: spikes oblong: glumes ovate, 3-cleft: middle segment subulate and reflexed: style 3-cleft. 3—4 f. S. B. C. T. Peekskill. Mch.

pendulus, M. (6) (J.) culm triangular, leafy: leaves striate, margin scabrous: spikes oblong-cylindrical, solitary: glumes 1-valved, imbricate, acuminate, ovate, white: pericarp 3-sided; pistil 3-cleft. 3 f.

(Style filiform, caducous. Bristles much longer than the seed. Trichophorum. P.)

eriophorum, Mx. (7) (red cotton grass. O. Au. ♃.) culm obtusely triangular, leafy: panicle decompound, proliferous, nodding: spikes all peduncled: bristles surrounding the pericarp, exsert. 4—5 f. S. Mch.

lineatus, Mx. (W. Au.) culm 3-angled, leafy: panicles terminal and lateral, decompound, at length nodding: involucre 1—2 leaved: spikes ovate: glumes lanceolate, somewhat carinate: bristles longer than the pericarp. 2—3 f. S. M. N. Mch.

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(1) trichodes, M. E. capillaceus, Mx. pusillus, Ph. (2) triqueter, Mx. (3) validus, Vahl. Ph. (4) exaltatus, Ph. (5) robustus, Ph. maritimus, Bw. E. (6) brizoides, W. (7) Eriophorum cyperinum, L. Trichophorum cyperinum, P.

2. *Seed naked at the base.*

(*Style simple at the base, not articulated to the seed, caducous.* ISOLEPSIS. Br.)

subsquarrosus, M. (1) (Au. ♃?) culm triangular, nearly naked, incurved; spikes 3, nearly terminal, ovate: glumes somewhat squarrose at the top: involucre 2-leaved, very long, unequal. 2 i. S. P. C. N. Mch.

capillaris. (2) (W. Au. ☉.) culm nearly naked, 3-angled, capillary: spikes ovate, 2—3 of them peduncled, with an intermediate sessile one. 8 i. S. P. C. N. Mch.

autumnalis, (W. Au. ♃.) culm compressed, ancipitous: umbel compound: involucre 2 leaved: spikes lanceolate, acute, somewhat 4-sided. 8—12 i. S. N. Peekskill. Mch.

Southern.

simplex, E. (W. J. ♃.) culm terete: spike somewhat ovate: glumes obtuse: pericarp obovate, 3-angled. 8—13 i.

filiformis, Vahl. (Au.) spike cylindric, oblong, obtuse: scales roundish: pericarp naked at the summit: culm filiform.

geniculatus, Vahl. (Ju.) spike ovate-oblong: scales round-ovate: culm terete, growing in distinct clusters.

tuberculatus, Mx. (Au.) culm terete, striate: glumes very obtuse, loose, appressed: pericarp somewhat 3-angled: tubercles sagittate, larger than the seed. 12 i. N.

quadrangulatus, Mx. (M. ♃.) culm acutely 4-angled: 3 sides concave; one wider, flat: spike cylindric: glumes very obtuse. 1—2 f.

equisetoides, E. (J.) spike cylindric, terminal: scales very obtuse: culms terete, doubly jointed. Resembles Equisetum hyemale. 18—24 i. Mch.

mucronatus, Vahl. (Au.) leafless: spikes oblong: scales entire, acuminate: culm 3-angled. Mch.

stenophyllus, E. (Au. ☉.) culm filiform, obtusely 3-angled: leaves setaceous: involucre 4-leaved, very long: spike clustered: glumes mucronate. 3—5 i. La.

coarctatus, E. (3) (Oct.) umbel compound, crowded: spikes small, lance-linear: involucre, setaceous, with one of its leaves longer than the umbel: leaves filiform, concave on one side. 1 f. La.

castaneus, Mx. (4) (Ju.) spikes ovate-oblong, obtuse: involucre 2-leaved, rigid, as long as the compound umbel.

sulcatus, E. (Au.) spikes lance-ovate, sometimes acuminate: umbel compound, as long as the involucre: pericarp longitudinally furrowed. 1 f.

nitens, Vahl. (Ju.) spikes ovate, pedicelled: corymbs generally compound, axillary and terminal: culm terete.

divaricatus, E. (J.) culm obtuse-3-angled: umbels decompound, divaricate: spikes oval, pendulous. 3—4 f.

schoenoides, E. ( ) culm 3 angled: panicles decompound, axillary and terminal, pendulous: spikelets clustered, pericarp obovate, rugose, surrounded by bristles. 2—3 f.

sylvaticus, Mx. (wood rush. ♃.) spikes oblong, crowded: corymb leafy, more than decompound: scales oblong, obtusish, green: culm leafy, 3-angled.

ovatus, Vahl. (Ju. ♃.) spike ovate: scales oblong: flowers somewhat diandrous: culm sub-compressed: sheaths unarmed.

Scirpus, FIMBRISTYLIS, RHYNCHOSPORA.

10—2. SCLERAN'THUS. 30. Scle. ton.

annuus, (knawel, gravel chickweed. O. w-g. J. ☉.) calyx of the fruit spreading, acute: stem spreading, sub-prostrate.

19—3. SCLE'RIA. 9. Cype. fod.

triglomerata, Mx? E. (5) whip grass. J. ♃.) culm acutely triangular, scabrous:

Scleranthus. Gr. *sklēros*, hard, and *anthos*, flower, on account of its dry calyx.

Scleria. Gr. *sklēros*, hard, on account of the hard and polished fruit.

(1) minimus, Ph. (2) ciliatifolius, E. (3) castaneus, M. (4) Fimbristylis, Vahl.

(5) Elliott says, this is not the triglomerata of Pursh, but may be of Mx. Pursh's description is as follows: *triglomerata*, (J. ♃.) culm erect, simple, 3-sided, scabrous: leaves scabrous at the margin: fascicles few-flowered, terminal: glumes ovate, mucronate, scabrous: nuts globose, acute, rugose.

leaves lance-linear, channelled, a little scabrous, sparingly pilose: spikes fascicled, lateral and terminal: glumes ciliate: nut smooth. 2 f. *S.* P. Y. N. Mch.

pauciflora, M. (1) (Au. ♃.) culm 3-angled, glabrous: leaves linear, glabrous: spikes lateral and terminal, few-flowered: lateral ones pendulous: terminal ones clustered: glumes glabrous: nut rugose. 12—18 i. *S.* P. Y.

verticillata, M. (Au. ♃.) culm simple, 3-sided. culm and leaves glabrous: spike naked, with alternate distant glomerules: glumes glabrous: nut globose, mucronate, transversely rugose-warty. 1 f. *S.* P.

reticulata, Mx. (Ju.) culm and leaves glabrous: sheaths winged: spikes scattered, axillary and terminal: glumes and bracts glabrous: nut reticulate, dotted. 1—2 f. *S.*

Southern.

oligantha, E. (M.) culm slender, 3-angled, glabrous: leaves narrow, nerved, slightly scabrous: spikes 2—3, sub-terminal, sessile; one lateral, one remote, long-peduncled: not very smooth, shining. 12—18 i.

gracilis, E. (   ) culm filiform, 3-angled: culm and leaves glabrous: spikes few-flowered, fascicled, sub-terminal: glumes glabrous: nut smooth, shining. 1 f.

ciliata, Mx. (J.) culm erect, glabrous, nearly naked: leaves linear, channelled, pubescent above. spikes terminal, clustered: bracts and glumes ciliate: nut rugose. 1—2 f.

hirtella, Mx. (Ju.) culm erect, slender: culm, leaves and bracts a little hirsute: spikes terminal and axillary: glumes pubescent: nut transversely-rugose. Var. *strigosa*, angles of the stem, margins and mid-ribs of the leaves more hirsute: glumes ciliate. nut tuberculate-rugose. Perhaps a distinct species. Elliott.

interrupta. Mx. (   ) culm simple, 3-angled: culm and leaves pubescent: spike glomerate. naked; clusters alternate, distant: glumes bristly: nut globose, mucronate, transversely warty-rugose.

21—1. SCOLOPEN'DRIUM. 5. Fili. sec-sti.

officinarum, W. (2) (caterpillar fern. W. Ju. ♃.) frond broad-lanceolate, cordate at the base: stipe chaffy. 8—10 i. Onondaga, N. Y.

Scorzonera, BORKAUSIA.

13—2. SCROPHULA'RIA. 37. Scro. cat. eme.

marylandica, (3) (fig-wort. O. g-p. J. ♃.) leaves cordate, serrate, acute, roundish at the base; petioles ciliate below: fascicles of the panicle lax, few-flowered. 3—7 f. *S.* Mch.

lanceolata, Ph. (g-y. Au. ♃.) leaves lanceolate, unequally serrate, acuminate, acute at the base: petioles naked: fascicles of the panicle corymbed. 3—5 f. *S.* P. T. Peekskill. Mch.

13—1. SCUTELLA'RIA. 42. Labi. fra. sto. car. ton. *hyd.*

lateriflora, (mad-dog scull cap, hood-wort. O. b. Ju. ♃.) branching, glabrous: leaves long-petioled, ovate, toothed; cauline ones sub-cordate: racemes lateral, leafy. Damp. 1—2 f. *S.* Mch.

galericula'ta, (scull-cap. O. b. J. ♃.) branching: leaves sub-sessile, lance-ovate, sub-cordate at the base, crenate, a little white-downy beneath: flowers axillary, solitary or in pairs. Flowers large. Damp. 12—18 i. Mch.

Scolopendrium. Gr. *skolopendra*, the centipede, so called from the number of its roots and branches, or from little marks on the front resembling this insect.

Scrophularia. Lat. *scrophula*, the king's evil, because it is used in this complaint.

Scutellaria. Lat. *scutellum*, a little shield, from the shape of the lid of the calyx; or from *scutilla*, a small vessel, on account of the figure of the calyx.

(1) Torrey, in a letter to Dr. Darlington, says, this is not the pauciflora of Pursh. Pursh's description is as follows: *pauciflora*, (Au. ♃.) culm erect, simple, 3-angled, scabrous: leaves narrow-linear, channelled, scabrous at the margin: fascicles few-flowered, in pairs, terminal; one very remote, axillary: nut globose, acutish, transversely rugose.

(2) Asplenium scolopendrium, L. (3) nodosa. Var. americana, Mx.

gracilis, N. (W. b. J. ♃.) stem sub-simple: leaves remote, broad-ovate, toothed, smooth, sessile, scabrous on the margin: upper ones smaller, entire: flowers axillary. Resembles the last. 12—18 i. P. C.

parvula, Mx. (W. b. J. ♃.) minutely pubescent, simple, or branching from the base: leaves entire, obtuse, sessile, revolute at the margin, veined beneath; lower ones short-petioled, sub-orbicular, sub-cordate at the base: upper ones oblong-ovate, gradually smaller: flowers axillary, solitary, opposite: root (or subterraneous stem) with tuberous internodes and rootlets from each joint. Probably synonymous with S. *ambigua*, N. 3—6 i. *S.* M. P. This improved description is given by Dr. Aikin. Mch.

lævigata, Aikin, (W. b. M. ♃.) simple, smooth: leaves opposite, petioled, ovate, coarse-serrate, entire at the base and extreme apex, acute, or sub-acuminate, sub-ciliate, tapering to the base, veined, glabrous, paler beneath: raceme simple, terminal, flowers opposite, bracted, sub-pubescent, erect; upper bracts smaller, entire: flowers large. 12—18 i. M.

integrifolia, (W. b. Ju. ♃.) somewhat simple, densely pubescent: lower leaves ovate, crenate, tapering to the base; upper ones lance-linear, obtuse, entire, sessile: racemes lax-flowered, leafy. Var. *hyssopifolia*, has the leaves all linear. 1—2 f. *S.* P. C. H. N. S—C. K.

pilosa, Mx. (1) (b. J. ♃.) nearly simple, pubescent: leaves remote, rhomb-ovate, obtuse, round-crenate, rugose, petioled; lower ones sub-cordate: racemes panicled: flowers crowded: bracts lanceolate, entire. 18—24 i. *S.* H. S—C. K.

canescens, N. (W. b. ♃.) branching: leaves ovate, acute, acutely toothed, petioled, hoary-villose beneath; lower ones sub-cordate: racemes axillary and terminal, pedicelled, sub-panicled: bracts lance-ovate, longer than the calyx: bracts and flowers hoary villose. 2—3 f. *S.* Harper's Ferry.

cordifolia, M. (2) (W. b. w. Au. ♃.) leaves broad-cordate, acute, obtusely toothed; petioles long: racemes opposite and terminal: bracts ovate, acuminate: stem branching. 2—3 f. *S.* P. K. Mch.

resinosa, T. (W. b.) minutely glandular-pubescent, very branching: leaves ovate, very obtuse, abruptly narrowed at the base, very entire, sprinkled on each side with resinous dots: flowers axillary, villose.

Southern.

nervosa, Ph. (b. Au. ♃.) nearly simple, glabrous: leaves sessile, ovate, toothed, nerved: raceme terminal, lax, leafy.

angustifolia, Ph. (W. J. ♃.) simple, finely pubescent: leaves linear: flowers axillary, opposite: stamens sub-exsert.

serrata, Ph. (b. Ju. ♃.) branching, pubescent: leaves ovate, acuminate, serrate, short-petioled: racemes terminal, lax, often panicled: bracts lanceolate, short. S—C. K.

villosa, E. (J.) stem erect, branching, villose: leaves large, lanceolate, acute at each end, coarse-toothed, villose beneath, hispid above: racemes panicled: flowers crowded. 2—3 f.

hirsuta, (   ) stem erect, simple, sparingly branched hirsute: leaves petioled broad-ovate, crenate, obtuse, hirsute: bracts ovate, ciliate: calyx hairy. 1—2 f. Discovered by H. A. Griswold, on the borders of marshes around Louisville, Ky.

3—2. SECA'LE. 10. Gram. far. ton.

Exotic.

cereale, (rye. J. ♂.) glumes and bristles scabrous-ciliate: paleas smooth. Introduced.

10—5. SE'DUM. 86. Port. ton.

ternatum, Mx. (false ice-plant. W. w. J. ♃.) small, creeping: leaves flat, round-spatulate, ternate: flowers somewhat 3-spiked. Varies into the eighth class. Cultivated. *S.* P. H. M. K. S—C.

Secale. Lat. *secalĕ*, rye: from Celtic *segal*, of *sega*, a sickle, by which name were known all plants cut with a sickle.

Sedum. Lat. *sedo*, to sit, because it grows on the face of rocks, and looks as if sitting upon them.

(1) caroliniana, Wr. (2) versicolor, N.?

telephioides, Mx. (p. Ju.) leaves broad-lanceolate, acute at each end, dentate: corymbs many-flowered. 1 f. S. F. Harper's Ferry. M.

nuttallii, T. (W.) leaves roundish, flat, entire, scattered: cymes terminal, trichotomous.

lanceolatum, T. (W. w.) leaves flat, sub-alternate: lower ones crowded, lance-oblong, acutish, glabrous, with the margin glandular-serrulate: stem branching, assurgent: flowers cyme-corymbed; petals lanceolate, spreading.

Exotic.

telephium, (orpine, live-forever. r. w. Ju. ♃.) leaves flattish, tooth-serrate, thickly scattered: corymb leafy: stem erect.

anacampseros, (stone-crop. ♃.) leaves wedge-form, entire, sub-sessile: stem decumbent: flowers corymbed.

Southern.

pulchellum, Mx. (W. p.) glabrous: stems assurgent: leaves scattered, linear, obtuse: cyme many-spiked: flowers sessile, octandrous.

pusillum, Mx. (1) (w. Ju. ♃.) erect, glabrous: leaves alternate, nearly terete, oblong: flowers sub-terminal, few, alternate, sub-pedicelled. 2—4 i. S—C

stenopetalum, Ph. (W. y. Ju. ♃.) glabrous, stems ascending: leaves scattered and crowded, adnate-sessile, compressed-subulate, acute: cyme terminal, thrice-dichotomous: spikes recurved: flowers sessile, decandrous: petals linear, much longer than the calyx.

rhodiola, Dc. (2) (W. g. y. ♃.) erect, simple: leaves imbricate, sessile, obovate, acute, fleshy, glaucous, toothed above: cymes terminal, branching. 8 i.

14—1. SELE'NIA. 63. Cruc. asc. dia.

Southern.

aurea, N. (W. y. ☉.) stem glabrous, sub-divided at the base, acute-triangular: leaves smooth, somewhat succulent; radical ones sub-bipinnatifid, sessile: peduncles axillary, angular. 4—6 i.

Selinum, CNIDIUM.

12—12. SEMPERVI'VUM. 83. Cras. h. coo. muc. lax.

Exotic.

tectorum, (houseleek. Au. ♃.) leaves ciliate: bulbs spreading: nectaries wedge-form, crenulate.

arboreum, (tree houseleek.) stem woody, smooth, branching: leaves wedge-form, glabrous, with soft spreading hairs.

Senebiera, LEPIDIUM.

17—2. SENE'CIO. 55. Eupa. sec-stim.

1. *Florets tubular: rays none.*

Remark. The three first species vary from the character of the section under which the genus is placed; being destitute of rays.

vulgaris, (groundsel. W. y. J. ♃.) leaves mostly clasping, sinuate-pinnatifid, toothed: flowers panicled: stem erect, branched. Perhaps introduced. 12—20 i. T. P. B. Mch.

hieracifolius, (fire-weed. O. w. J. ☉.) stem wand-panicled: leaves clasping, oblong, acute, deeply, acutely and unequally toothed: involucre smooth, bristly at the base. This plant springs up wherever land has been recently cleared of timber, and more particularly if it has been burned over. 4—5 f. S. Mch.

Selenia. From Gr. *selene*, the moon.

Sempervivum. Lat. *semper*, always, and *virens*, living, being on account of its succulent habit remarkably tenacious of life.

Senecio. Lat. *senex*, an old man, from the grey-downy seed heads, or because it becomes old in the beginning of the season, the name meaning the same as Erigeron.

(1) Diamorpha, N. and Tillaea cymosa of the same. (2) Rhodiola rosea, L.

elongatus, Ph. (long stem groundsel. W. Ju. ♃.) glabrous: radical leaves spatulate, serrate, tapering into the petiole: cauline leaves pinnatifid, toothed, very remote: peduncles elongated, corymb-umbelled. P.

pauciflorus, Ph. (♃.) glabrous: radical leaves long-petioled, roundish-ovate, sub-cordate, toothed; cauline ones 2, remote, pinnatifid, toothed: peduncles short, somewhat in 3's, umbelled. Labrador. 8 i.

2. *Flowers with ray florets.*

pauperculus, Mx. (♃.) stem very simple, rigidly erect, nearly naked: leaves lanceolate; radical ones sub-entire and gash-toothed: corymb few-flowered: involucre smooth: rays small.

gracilis, Ph. (W. M. ♃.) radical leaves very long petioled, orbicular, sub-cordate, crenate; cauline ones few, very remote, linear-oblong, dilated at the base, gash-toothed: peduncles very short, hirsute, sub-umbelled: involucre smooth: rays few, very short. 1 f. P. N.

obovatus, (W. y. M. ♃.) radical leaves obovate, crenate-serrate, petioled: cauline ones pinnatifid, toothed: flowers sub-umbelled, long peduncled, bracted, with a cavity under the receptacle like some other of the genus: stem somewhat glabrous. *S.* B. P. N.

balsamitæ, (balsam groundsel. W. y. J. ♃.) radical leaves oblong, serrate, petioled; cauline ones lyrate or pinnatifid: flowers sub-umbelled: stem and peduncles villose at the base. 1—2 f. *S.* V. Y. P. B. C. M. N. D. Mch.

aureus, W. (rag-wort, false-valerian. W. y. J. ♃.) radical leaves ovate, cordate, serrate, petioled: cauline ones pinnatifid, toothed, terminal division lanceolate: peduncles sub-umbelled, incrassate. 18—24 i. *S.* B. C. O. P. N. T. V. Mch.

cymbalaria, Ph. (W.) radical leaves roundish, petioled, truncate at the base, toothed: petioles appendaged, sub-lyrate: cauline ones sessile, linear gash-toothed: stem about 1-flowered. Perhaps a variety of the last.

canadensis, (W.) ( ) leaves doubly pinnate, linear, glabrous; uppermost ones simply pinnate: flowers in compound, fastigiate corymbs. Canada.

lugens, Rich. ( ) deciduous-tomentose or naked, simple: leaves entire, glandulous-dentate; radical ones oblong spatulate: cauline ones lanceolate, acute, somewhat clasping: corymb dense: leafets of the involucre remarkably sphacelate. R. A.

triangularis, H. ( ) high, simple, leafy, very glabrous: leaves almost all petioled, deltoid-acuminate, coarsely and unequally dentate-serrate: flowers largish, corymbed: divisions of the involucre somewhat lax, sphacelate at the apex. R.

serra, H. ( ) high, ramose, very glabrous: leaves numerous, lance-linear, deeply and unequally dentate-serrate: panicle very branching, densely sub-corymbed: leafets of the involucre somewhat lax, scarcely sphacelate. R.

canus, H. ( ) hoary-tomentose: radical leaves spatulate, very entire; cauline ones lance-linear, pinnatifid: leafets of the involucre scarcely sphacelate. A var. with the leaves somewhat glabrous above. D.

resedifolius, Lessing. ( ) dwarfish; very glabrous: stem scarcely leafy; radical leaves longly petioled; outer ones rotund, crenate-sinuate; middle ones lyrate-pinnatifid; segments entire or 2—3-lobed; cauline ones oblong-pinnatifid at the base: axils woolly: stem 1—3 flowered. A.

eremophilus, Rich. ( ) rays spreading: stem high, branching: leaves all very glabrous, pinnatifid; divisions sub-linear, distant, semi-pinnatifid: flowers corymbed: bracts lax, long, conforming to the cylindric involucre. A.

frigidus, Lessing ( ) deciduous-tomentose: stem simple, somewhat low: leaves oblong, very entire; lower ones obovate, petioled: stem ascending, 1-flowered. A.

pseudo-arnica, Lessing. ( ) deciduous-tomentose: stem thick, erect, leafy; leaves oblong, dentate, attenuate below; upper ones sub-cordate at the base, somewhat clasping; lower ones attenuated into a petiole: flower solitary, large. A. Newfoundland.

palustris, Hk. (1) ( ) simple or ramose; woolly: stem fistulous: leaves broad-lanceolate; cauline ones lance-linear, sinuate-dentate, almost pinnatifid: flowers corymbed. Var. *congesta*, (2) stem very simple, flowers capitate. A.

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(1) Cineraria palustris, Lin. (2) Cineraria congesta, Br.

Southern.

ciliatus, Wr. (w.) stem pilose: leaves lance-linear, ciliate.

tomentosus, Mx. (M. ♃.) hoary and woolly: stem simple: leaves petioled, lance-oval, serrulate: corymb sub-umbelled. 2 f.

fastigiatus, Sz. (y.) radical leaves oblong, heart-ovate, crenate-toothed, glabrous; cauline ones pinnatifid, divisions gash-toothed: flowers sub-umbelled: peduncles and involucre glabrous. 2—3 f.

lobatus, P. (y. M. ☉.) glabrous: leaves lyrate-pinnatifid: lobes round, sub-repand: corymb-compound: upper peduncles sub-umbelled. 1—3 f. Florida.

integerrimus, N. (W. y. J.) smooth: stem simple, slender: leaves very entire; radical ones long-petioled, lanceolate, acute; cauline ones sessile, acuminate; highest ones minute: corymb simple: peduncles 1-flowered: rays shorter than the hemispheric, bracted involucre. Damp. 12—18 i.

Senecio, CACALIA, CINERARIA.

20—9. SERPIC'ULA. 22. Hydr. ton.

canadensis, Mx. (1) (ditch moss, little snake weed. O. w. Ju. ♃.) perfect flowers triandrous: stigmas strap-like, reflexed, 2-cleft: leaves linear, acute, somewhat whorled, glabrous, denticulate. The pistillate corols are tubular. S.

Serrulata, LIATRIS.

13—2. SESA'MUM. 40. Peda. h. s. muc. lax.

Exotic.

indicum, (bene-benni, oily grain. r-w. Au. ☉.) leaves lance-ovate; lower ones 3-lobed; upper ones undivided, serrate. 2—4 f.

16—10. SESBA'NIA. 93. Legu. f. nut. asc.

Southern.

vesicaria, Jn. (2) (y. Au.) leaves equally pinnate: leafets (10—20 pairs,) oblong, obtuse, glabrous: racemes few-flowered, shorter than the leaves: loment lanceolate, long stiped. about 2-seeded. 3—7 f.

macrocarpa, M. (O. y. & p. S. ☉.) leaves equally pinnate; leafets (10—25 pairs) oval, glabrous, sub glaucous beneath: racemes axillary, few-flowered; legumes elongated, nearly terete. 4—12 f.

5—2. SES'ELI. 60. Umbel. sto. war—.

triternatum. Ph.)W. M. y. ♃.) leaves triternate; leafets long-linear: umbels hemispheric; involucres many leaved, with linear leafets of the length of the umbels. R.

divaricatum, Ph. (y. M. ♃.) stem very branching, divaricate: leaves bipinnatifid, with gashed lanceolate divisions: general involucre none: involucel linear. 6—9 i. Louisiana. L.

leiocarpum, H. ( ) leaves longly sheathed, triternate or triternate-pinnate: leafets petioled, oblong, very entire, entire or trifid, glaucous: stem nakedish: umbellets compound; rays universal, very unequal: umbels capitate: flowers diœcious or polygamous? fruit (when immature) very smooth, oblong-cylindric: involucres and involucels none. 9 i. A. R.

Serpicula. Lat. *serpo*, to creep, in allusion to its creeping habit and small size.

Sesamum. Gr. *sesamon*, of Arabic, *semsen*, which was the ancient name for this plant.

Sesbania. (The Arabic name of the plant) *Sesban*, with a Latin termination.

Seseli. Lat. *seselis*, Gr. *seulis*, words probably of Arabic origin.

(1) occidentalis, Ph. verticillata, M. Elodea, Mx. Udora, N. (2) platycarpa, P. disperma, Ph. Robinia, Jn. Aeschynomene platycarpa, Mx. Glottidium floridanum.

3—2. SESLE'RIA. 10. Gram. far. ton.

Southern.

dactyloides, N. (moor grass. W. g.) culm setaceous, leafy: leaves short, flat, subulate, sub-pilose; stipules bearded: spikes 2—3, few-flowered: corol and 2-flowered: calyx acuminate, entire. 4—5 i.

11—5. SESU'VIUM. 87. Ficoi. f. nut.

sessile, Dc. (L. r. Ju.) flowers sessile: leaves linear-oblong, flat.

Southern.

pentandrum, E. (L. Au.) leaves lance-linear, obtuse, succulent: flowers solitary, closely sessile, pentandrous. The descriptions of the *sessile* are too short to enable me to determine whether this is the same. Elliott.

pedunculatum, Dc. (L. w. Au.) leaves lance-linear, obtuse, succulent: flowers solitary, axillary peduncled, polyandrous.

Setaria, PENNISETUM.

13—2. SEYME'RIA. 37. Scro. cat. eme.

Southern.

tenuifolia, Ph. (1) (y. & p. Au. ☉) glabrous, very branching: leaves compound-pinnatifid; segments filiform, opposite and alternate: corol sub-rotate: capsule glabrous. 3—4 f. Charleston, S—C.

pectinata, Ph. (y. S. ☉) viscid-pubescent, very branching: leaves pectinate-pinnatifid: divisions undivided, acute, linear: corol sub-rotate: capsule pubescent. 2—4 f.

macrophylla, N. (W. y. Ju.) branching: leaves smoothish: lower ones sub-pinnatifid or deeply toothed; upper ones lanceolate, entire: orifice and tube of the corol densely lanuginous: stamens scarcely exserted. 4—5 f.

Shepherdia, HIPPOPHAE.

5—5. SIBBAL'DIA. 92. Rosa. r. b. ton.

procumbens, (A. y. Ap. ♃.) leaves ternate; leafets wedge-form, 3-toothed, smooth above, hairy beneath.

Southern.

erecta, Var. *parviflora*, (W. r-w. Ja. ☉.) erect, branching: radical leaves about twice 3-cleft; segments sub-divided; cauline leaves alternate, sessile, sub-bipinnatifid. 4—6 i.

19—15. SI'CYOS. 97. Cucu. sop.

angulata, (single-seed cucumber. ☉. w. Ju. ☉.) leaves cordate, with obtuse hind lobes, 5-angled, scabrous, denticulate: fruit capitate, hispid. Cultivated. River alluvion. S.

15—12. SI'DA. 74. Malv. emo. muc.

spinosa, (W. y. Ju. ☉.) stem spreading: axils sub-spinose: leaves long-petioled, lance-ovate, obsoletely cordate, toothed: peduncles solitary, axillary: stipules setaceous, longer than the peduncle: carpels 2-beaked. 1—2 f. S. P. Y. H. M. N—C.

Sesleria. In honor of Dr. Leonard Sesler, a Venetian cultivator of plants.

Sesuvium. Gr. *sekos*, a bird's nest, which each half of the capsule resembles.

Seymeria. In honor of the patron of botany of the name of Seymer.

Sibbaldia. In honor of Sir Robert Sibbald, author of Scotia illustratica.

Sicyos. Gr. *sikuos*, cucumber, which belongs to the same family as this.

Sida. Gr. *sidē*, a name given by Theophrastus, either to a malvaceous plant, or to our Nymphaea.

(1) Gerardia cassioides, Ph. afzelia, Mx.

napaea, (1) (false mallows. w. Ju. ♃.) leaves heart-5-lobed, glabrous; lobes oblong, acuminate, toothed: peduncles many-flowered: carpels awnless, acuminate. 2—4 f. S. P.

dioica, (2) (W. w. Oc. ♃.) leaves 7-lobe-palmate, scabrous; lobes lanceolate, gash-toothed: corymbs bracted: flowers dioecious. P.

crispa, (L. w. Au. ☉.) leaves oblong-cordate, acuminate, crenate; upper ones sessile: peduncles solitary, longer than the petioles, deflected when in fruit: carpels inflated, awnless, crisp-undulate. P.

malvaeflora, Dc. (p.) radical leaves roundish, 9-lobed, truncate at the base; those of the stem 5-parted: segments linear, somewhat toothed; petioles of the lower leaves hispid: raceme terminal: segments of the calyx lanceolate, with a long acumination: carpels 7, pointless. 1—2 f. N. W. Coast.

oregana, N. (r-p.) stem nearly glabrous: radical leaves 7-lobed; the lobes incisely 3-toothed: those of the stem palmately 7-parted: the segments 3-lobed and incised, linear-lanceolate: segments of the calyx broadly ovate: raceme terminal: styles 8. 18 i. West of Rocky Mts.

Southern.

hispida, Ph. (y. Au. ♃.) hispid-pilose: leaves lanceolate, serrate: peduncles solitary, axillary, as long as the petioles: outer calyx filiform. 1—2 f.

rhombifolia, (y. Au. ♃.) leaves lance-oblong, toothed, wedge-form and entire at the base: peduncles much longer than the petioles: carpels 2-horned. 1—2 f. N—C.

alceoides, Mx. (W. Ju. ♃.) lower leaves triangular-cordate, gashed; upper ones palmate-many-cleft: corymb terminal: calyx hispid.

gracilis, E. (y. Au. ♃.) stem slender, glabrous: leaves linear-serrate: peduncles solitary, axillary, as long as the petioles: carpels (10) 2-horned, glabrous. 2—3 f.

glabra, N. (y. ☉?) small, ramose, very glabrous: leaves linear oblong, sub-lanceolate, gashed, unequally serrate; short-petioled, smallish: flowers axillary, aggregated: carpellae sub-10, bi-dentate. 9 i. Florida.

dissecta, N. (♃. r.) stellately pubescent and hoary: leaves 5-parted to the base; lateral segments 3-cleft, the middle one multifid; ultimate divisions narrowly linear: racemes terminal, leafy: styles 11. Near the Rocky Mts.

diploscypha, T. & G. (w. p.) hispid with spreading hairs: stem prostrate: leaves digitately 5-parted; segments narrowly 2—3-lobed: petiole twice as long as the lamina: flowers aggregated at the summit of the branches: bracts 3, long, filiform at the base of the pedicels: calyx deeply 5-parted: stamineal column cyathiform, double; the exterior deeply 5-lobed: the lobes antheriferous at the summit: styles 7—9. California.

delphinifolia, N. (♃. p.) hispidly hirsute: leaves all pedately 7-parted: segments divided into linear, rather obtuse lobes: flowers in a long, leafy raceme: lobes of the calyx lanceolate: styles 7. 8—12 i. California.

coccinea, Dc. (♃. r.) stellately pubescent and hoary: leaves on long petioles, deeply 3-parted; lateral segments 2-parted, the intermediate one 3-cleft: racemes terminal: styles 12. Plains of the Upper Missouri.

fasciculata, T. & G. (♃?) stems somewhat hairy: leaves linear, denticulate-serrate above, cordate at the base: those at the summit of the stem crowded: flowers sessile, terminal: carpels 5—7, scarcely rostrate, strongly reticulated and muricate. Texas.

filicaulis, T. & G. (☉?) stems very slender, hispid: leaves ovate-oblong, cordate at the base, serrate; petioles as long as the lamina: flowers axillary, solitary: carpels 5, 2-beaked. 2 f. Texas.

hulseana, T. & G. (p.) stem hispidly pilose: leaves orbicular-ovate, abruptly acuminate, tomentose beneath with a whitish velvety pubescence, roughishly tomentose above, crenate-dentate: peduncles axillary in the upper leaves, several-flowered: styles about 12. Florida.

californica, N. (♃ p.) velvety-tomentose: leaves orbicular-cordate, laciniately toothed; the radical and lower cauline ones on very long petioles: flowers in a terminal raceme: stamineal column short, double; the exterior 5-lobed, antheriferous at the summit: styles about 7; stigmas long, simple. California.

obliqua, N. (♃.) leaves reniform, very oblique at the base, rounded at the summit, scabrous-tomentose, strongly reticulately veined beneath, crenulate-dentate: peduncles axillary, solitary, 1-flowered, [illegible] after flowering: bracteoles 2, setaceous: petals oblong, [illegible] hairy externally: carpels 7, pointless. On the Wallawallah river.

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(1) Napaea leavis, 4th ed. (2) Napaea scabra, 4th ed.

17—2. SIEGESBEC'KIA. 55 Heli. s. sto.

flosculosa, W. (W. y. Au. [illegible]) [illegible] florets of the disk 3-toothed, triandrous.

Southern.

laciniata, Lk. ( ) leaves gash-pinnatifid: upper ones lanceolate, entire, tuberculate: outer involucre short: florets of the ray very large.

11—12. SIEVER'SIA. 92. Rosa. f. aro. ton.

anemonoides, Dc. (1) (w.) stem 1-flowered, stoloniferous, creeping: leaves pinnate, glabrous: [illegible] filiform: petals longer than the calyx: style bearded. A.

rossii, Br. (2) ([illegible]) [illegible] leaves radical, interruptedly pinnate, glabrous; pinnae 3-lobed; lowest [illegible]: stem 1-flowered, somewhat 2-leaved: veins of the petals all distinct. A.

glacialis, Br. (3) ([illegible]) covered all over with [illegible] hair: leaves pinnate; divisions ovate-oblong, [illegible]: [illegible] larger, somewhat 1-toothed: flower large, single, terminal: [illegible] very villose. A.

triflora, Br. (4) (r.) hirsute, stem [illegible], erect, simple, 3-flowered: leaves radical, interruptedly pinnate; [illegible] pinnatifid; lower ones gradually smaller: petals equaling the calyx: awns very long, silky-villose. R. A. Newfoundland.

radiata, Mx. (5) (y.) hirsute, simple: radical leaves lyrate-pinnatifid: lateral leafets few, very minute; terminal one largest, rotund-cordate, sinus narrow, very deep, radiate-nerved, sub-lobed, crenate-serrate: cauline ones 3—5, sessile, cordate, gash-lobed: flowers few, (2—3) erect: petals longer than the calyx: awns sub-pilose. A.

10—3. SILENE. 82. Cary. dem. cata.

pennsylvanica, Mx. (6) (pink catch-fly. W. r. J. [illegible]) viscid pubescent: lower leaves wedge-form; upper leaves lanceolate: stems [illegible] at the summit: about 3 petals obtuse, slightly emarginate, sub-crenate. 6—10 i. S. T. C. P. B. K. Y. N. D. S—C.

virginica, Mx. (7) (W. r. J. [illegible]) decumbent, slightly viscid pubescent: leaves oblong, a little rough at the margin: [illegible]: petals 2-cleft: stamens and pistils exsert. Var. *erecta*, has the stem erect: flowers sub-fascicled. 12—18 i. S. P. T. D. M. K. Sandusky bay. Mch.

antirrhina, (sleepy catch-fly. ☉. w-p. J. [illegible]) leaves lanceolate, sub-ciliate: peduncles 3-parted: petals emarginate: calyx ovate. Flowers small. 1—3 f. S. T. Mch. M. K.

nocturna, (w. J. [illegible].) flowers alternate, sessile, on a one-sided spike: petals 2-cleft. S. P.

acaulis, (W. r. Ju. [illegible]) stemless, [illegible]: leaves linear, [illegible]; peduncles terminal, solitary, erect, 1-flowered: petals emarginate. S. R. Labrador.

stellata, A. (J. Au. [illegible] w.) stem erect, branching, minutely pubescent: leaves whorled in fours, ovate-lanceolate, gradually acuminate: cymes panicled: petals lacerate-fimbriate, not crowded: stamens about the length of the petals. 2 f. Canada to Carolina, and west. *Cucubalus, stellatus*, 7th edition.

Siegesbeckia. In honor of Dr. J. G. Siegesbeck, an opposer of Linneus.

Sieversia. Named by Willdenow, in honor of M. Seivers, a well known Russian botanical collector.

Silene. Gr. *sialon*, saliva, in allusion to the viscid matter covering the plant; or after the god, Silenus, who is represented as always drunk, and covered with slaver.

(1) Geum, W. Ph. Dryas pentapetala, Lin. (2) Geum, Dc. (3) Geum, Adams, Dc. (4) Geum, Ph. Potentilla nivalis, T. (5) Geum calthifolium, S. (6) virginica, Wr. caroliniana, Wr. (7) catesbæi, W.

nivea, Dc. (J. Ju. ♃. w.) minutely pubescent: stem simple or dichotomous above: leaves oblong-lanceolate, gradually acuminate, the floral ones lanceolate-ovate and much smaller: flowers sub-solitary: calyx tubular-campanulate, the teeth very short and obtuse: limb of the petals cuneate, [illegible], with a minute 2-parted crown: stipe longer than the ovary. 1—3 f. Pennsylvania, Illinois. *Cucubalus, niveus*, 7th edition.

inflata, Smith. (J. w. ♃.) glabrous and glaucous: stem branching: leaves oblong, acute: calyx vesicular, ovate: petals bifid, [illegible], with [illegible]-claws: styles very long, Quebec, Boston. Introduced. *Cucubalus, behen*, 7th edition.

douglasii, H. (J. w. ♃.) minutely pubescent: stem erect, very slender: leaves remote, linear, elongated and narrow, attenuated at each end: flowers few, on slender peduncles: calyx clavate, at length inflated and membranaceous, abrupt at the base, pubescent: limb of the petals cleft. 2—3 i. Rocky Mts. *Cucubalus, douglasii*, 7th edition.

scouleri, H. (W. ♃.) somewhat viscid-pubescent: stem simple, erect, remotely leafy, with swollen nodes: leaves lanceolate or linear-lanceolate, plane: spike long: flowers erect: calyx oblong-clavate, 10-striate: petals bifid. 1—2 f. Oregon. N. W. Coast.

drummondii, H. (♃. w.) glandular-pubescent and viscid: stems erect, strict, simple: leaves remote, linear-lanceolate: raceme loose, few-flowered, with the pedicels elongated and usually alternate: calyx oblong-cylindrical, erect. 1—2 f. S. Oregon.

multicaulis, N. (r. ♃.) minutely pubescent: stems numerous, erect, rigid: leaves linear-oblanceolate, rather acute: flowers few, on shortish peduncles: calyx ovate-cylindrical, slightly inflated, 10-striate, with obtuse teeth: petals bifid. 1 f. West of Rocky Mts.

hookeri, N. (♃. w.) sub-decumbent, softly pubescent: leaves lanceolate, acute, attenuate below: stems dichotomous: branches about two, with 3 large flowers on long-peduncles: calyx cylindrico-sub-campanulate, with acute teeth: petals divaricately 4-cleft. Oregon.

menziesii, H. (♃. w.) minutely glandular-pubescent: stem erect, dichotomously branched: leaves crowded, ovate-lanceolate, the lowermost oblong-ovate, acuminate at both ends: flowers numerous: peduncles about the length of the leaves: limb of the 2-parted petals with the segments linear, much longer than the obovate deeply 5-toothed calyx: styles thickened above, conspicuously bearded within. 6—12 i. N. W. America.

stellarioides, N. (♃. w.) minutely pubescent: stem erect, scarcely branched: flowers few: leaves lanceolate-oblong, acuminate: peduncles longer than the leaves: petals bifid, longer than the obovate deeply 5-toothed calyx: styles slender and smooth. 3—6 i. Oregon.

Exotic.

armeria, (garden catch-fly. w. r. Au. ☉.) flowers fascicled fastigiate: upper leaves cordate, glabrous: petals entire.

conica, (cone-fruit catch-fly. r. ☉.) calyx of the fruit conic, striate (about 30 striate:) leaves soft, lanceolate: petals bifid. Flowers small.

dichotoma, (forked catch-fly. w. Au. ☉.) calyx ovate, viscid hairy, erect: petals 2-cleft: racemes in pairs, terminal, spreading: flowers intermediate, peduncled: leaves petioled, lance-ovate, ciliate at the base.

noctiflora, (night-flowered catch-fly. w. r. Ju. ☉.) calyx 10-angled, veiny: teeth of the tube equal: stem dichotomous: petals bifid.

Southern.

quinquevulnera, (r. Ju. ☉.) hirsute: leaves lance-oblong; upper ones linear: petals roundish, entire: fruit erect, alternate. 6—12 i.

ovata, Ph. (r-w. J. ♃.) leaves sub-ovate, acuminate, smoothish: raceme terminal, compound: calyx ovate: stamens and styles exsert: stem simple.

regia, (W. r. J. ♃.) pubescent, [illegible]: leaves broad-ovate, opposite, somewhat scabrous: calyx long-cylindric: petals oblanceolate, generally entire: style and stamens exsert. 2—3 f.

rotundifolia, N. (W. r. Ju.) decumbent: stem, calyx and margin of the leaves very pilose: leaves broad-oval, acuminate at each end: flowers few, trichotomal: petals gashed, sub-4-cleft, lateral segments shorter. K.

baldwinii, (1) N. (M. r.) sub-pilose, not viscid: stem sub-erect, with brown distant joints: leaves small, oblong below, obovate acute above. Flowers very large. 6—18 i. On barren soil. Common near Charleston, S—C. Name by Nuttall,—description and locality by S. Drayton.

axillaris, (2) (p. Au.) viscid-pubescent: stem branching: leaves ovate and oval, petioled, sub-dentate: flowers sessile, axillary, solitary. 8 i.

17—4. Sil'phium. 55. Heli. s. ole. sto.

perfoliatum, (ragged cup. W. A. y. Au. ♃.) stem 4-sided, smooth: leaves opposite, connate, ovate, serrate. Var. *conjunctum*; four outer scales of the involucre longer than the inner scales. 4—6 f. S. P. Mch.

integrifolium, Mx. (A. y. Au. ♃.) stem 4-sided, rough: leaves opposite, sessile, oblong, entire, scabrous: flowers few, short-peduncled. 4 f. S. P.

trifoliatum, (3) (y. S. ♃.) stem 6 angled, smooth: leaves whorled, in threes, lance-ovate, unequally tooth-serrate, scabrous above; upper ones sessile: panicle trichotomous. 4—6 f. S.

ternatum, (W. y. Ju. ♃.) stem terete, smooth: leaves whorled, in threes, petioled, lanceolate, sub-denticulate, a little scabrous, ciliate at the base; the upper ones scattered, sessile: panicle dichotomous: involucre ciliate. 4—6 f. S. P. Niagara.

terebinthinaceum, (W. y. Ju. ♃.) stem smooth: radical leaves large, round or reniform-cordate, slightly lobed and toothed: cauline leaves alternate, ovate, serrate, scabrous: panicle compound, many-flowered. 4—5 f. D. Mch.

gummiferum, E. (W. y. Ju. ♃.) stem erect, hispid, gummiferous: leaves sinuate-pinnatifid, sub-hispid beneath: flowers large, axillary, sub-sessile: scales of the involucre ovate, acuminate, hispid on the margin. 2—3 f. D. Mch.

Southern.

laciniatum, (O. y. Au. ♃.) stem hispid above: radical and cauline leaves pinnatifid; divisions tooth-sinuate: flowers panicled: scales of the involucre sub-cordate, acuminate. 8—12 f. K.

pinnatifidum, E. (W. y. Au.) stem nearly glabrous: leaves sinuate-pinnatifid, sub-scabrous, a little hairy beneath: scales of the involucre oval; outer ones roundish. 4—6 f.

compositum, (y. Ju. ♃.) stem smooth: cauline leaves pinnatifid-sinuate; radical ones ternate, sinuate many-cleft: flowers small, panicled. 2—4 f. S—C.

connatum, (A. y. Au. ♃.) stem terete, hispid: leaves opposite, connate, remotely serrate, scabrous. 6 f.

laevigatum, Ph. (y. Au. ♃.) stem simple, 4-angled, furrowed, glabrous: leaves opposite, sessile, ovate-acuminate, slightly serrate, sub-cordate at the base, glabrous on both sides. 2 f.

scaberrimum, E. (y. Au.) stem sub-angled; angles rough above: leaves ovate, sub-acuminate, serrate, rigid, scabrous on both sides, short petioled: flowers corymbed: scales of the involucre ovate, ciliate. 3—4 f. Charleston, S—C.

atropurpureum, Retz. (W. y. Au. ♃.) stem terete, smooth: leaves whorled, in fours, lanceolate, scabrous, sub-entire, sub-sessile, ciliate at the base; upper ones scattered: panicle dichotomous. 4 f.

dentatum, E. (y. Au.) stem erect, somewhat glabrous: lower leaves opposite; upper ones alternate; all lanceolate, sinuate toothed, pilose, scabrous: flowers corymbed, scales of the involucre broad-ovate, ciliate. 2—3 f.

asteriscum, (y. Ju. ♃.) stem simple, terete, hispid: leaves opposite or alternate, oblong, acute, serrate, scabrous: flowers few, generally solitary. Var. *scabrum*, leaves lance-oblong, sub-crenate, sessile, scabrous: involucre sub-ciliate. 2—3 f. S—C.

pumilum, Mx. (4) (y. Au. ♃.) stem and petioles tomentose; branches 1-flowered:

Silphium. Gr. *silphion*, the name of a plant of the umbelliferous kind, which Linneus transferred to this genus.

(1) Dr. Drayton's description. Marcescent petals torn: 2 ligulate nectaries adhering to the inside of each petal, and free at the rounded entire apex: anthers cordate-lobed: capsule 4-toothed at the apex? (2) of M. C. Leavenworth. (3) ternifolium, Mx. (4) tomentosus, Ph.

leaves alternate, heart-ovate, serrate, petioled, white-tomentose beneath: akenes unawned. 2—3 f. Florida.

elatum, Ph. (y. ♃.) leaves alternate, petioled, cordate, sinuate: scales of the involucre obtuse.

reticulatum, Ph. (y. ♃.) leaves alternate, lance-ovate, cordate, serrate, obtusish, a little villose.

subacaule, N. (y.) somewhat scabrous: stem very short: peduncles very long: leaves oblong, sub-sinuate-pinnatifid, toothed: divisions of the involucre dilated, rhomboid.

14—2. Sina'pis. 63. Cruc. s. con. war. sti. epis.

Exotic.

nigra, (common mustard. y. J. ⊙.) siliques glabrous, 4-angled, close-pressed to the stem: leaves at the top lance-linear, entire, smooth. Naturalized.

alba, (yellow-seed mustard. y. ⊙.) siliques bristly, rugged, shorter than the 2-edged beak: leaves pinnatifid: upper ones sub-lyrate, all irregularly toothed. Seeds large, pale-yellow, and sometimes become blackish.

arvensis, L. (⊙. y. J. Au.) siliques glabrous, many-angled, torose, about three times the length of the slender, somewhat ancipital style: stem and leaves more or less hairy. 2—3 f. New York and Lower Canada. Introduced.

5—1. Siphony'chia. 30. Illec. ast—.

americana, T. & G. (♃.) leaves oblanceolate, much shorter than the internodes, slightly hairy below, ciliate, rather obtuse: stem much branched, minutely and retrosely pubescent: flowers in small glomerate cymes at the ends of the branches. Florida, Georgia, S—C.

5—2. Si'son.* 60. umbel. r. det. sti. *rheu.*

majus, Dc. ( ) stem glabrous: leaves cut-pinnate; lobes of all with cartilaginous margins, sharply serrulate; those of the lower ones lanceolate; those of the upper ones many-cleft and linear.

rubricaule, Dc. ( ) leaves half-whorled, cut-tri-pinnate; segments capillaceous: partial involucres compound, longer than the umbellets. Near Baltimore.

Sison, Œnanthe, Zizia, Uraspermum, Discopleura.

14—2. Sisym'brium. (1) 63. Cruc. ast. s. stim.

officinale, (hedge mustard. O. y. J. ⊙.) siliques close-pressed to the rachis of the spike: leaves runcinate. 1—3 f. S.

canescens, N. (2) (W. y. Ap. ⊙.) leaves bi-pinnatifid, hoary: divisions toothed, obtuse, sometimes obovate: petals as long as the calyx: siliques sub-angled, ascending, shorter than the pedicels. 1—2 f. S. R. K.

cheiranthoides, (3) (O. y. J. ⊙.) siliques erect: fruit-bearing pedicels spreading: leaves lanceolate, sub-entire. S. D. Canada.

junceum, Dc. ( ) leaves glabrous, glaucous; lower ones petioled, runcinate-pinnatifid; upper ones lance-linear, entire. R.

sophioides, Fischer. (y. ⊙.) leaves bipinnatifid; lobes ovate or lanceolate, gashed: pedicels and petals somewhat shorter than the calyx: flowers and siliques linear-filiform, falcate, umbel-corymbed. 1—2 f. A.

humile, Ledebour. (w. p. r. ♃.) hoary-pubescent: stem diffuse: leaves entire or sinuate-dentate; radical ones spatulate; cauline ones lanceolate, attenuated at the

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Sinapis. Lat. *sinapis*, which De Theis conjectures came from Celtic *nap;* plants allied to the radish.

Siphonychia. Gr. *siphon*, tube, funnel, *nuchios*, night, dark.

Sison. Gr. *sisōn*, a plant of the umbelliferous kind; from Arabic *si*, *zan*, which signifies a running stream.

Sisymbrium. Gr. *sisumbrion*, the water rocket, from *sisubos*, fringe; from its fringed roots.

(1) Erysimum of Authors. (2) sophia, Ph. not L. (3) parviflora, P.

* These species should have been described under Ammi. See Discopleura.

base: siliques linear, five times longer than the pedicel, terete-torulose, pubescent. Var. 1. leaves sub-entire. Var. 2. leaves sinuate-dentate, sub-pinnatifid. A. R.

lyrata, (1) (w. Ap. ♂.) radical leaves lyrate-pinnatifid, sub-hirsute; cauline ones linear, very entire: stem and upper leaves glabrous, glaucous: branches erect: silique erect, straight, linear, twice as long as the pedicels. P. Y. T. R. C.

linifolium, N. (M. ♃.) glabrous: stem slender, simple: leaves linear, undivided; the lower ones somewhat laciniately cleft: petals nearly twice as long as the calyx: siliques linear and narrow. Rocky Mts.

pygmaeum, N. (♃.) dwarf, nearly smooth: stem somewhat simple: lower leaves somewhat lyrately pinnatifid, oblong: upper ones entire, linear: petals longer than the calyx: silique long and narrow. Oregon.

sophia, L. (☉. Ju.) leaves bipinnatifidly divided: lobes oblong-linear, incised: pedicels four times the length of the calyx: petals smaller than the sepals. Lower Canada, Virginia.

thaliana, Gay. (☉. M.) stems often many from one root, rather naked, branching above, erect: leaves hairy, sparingly toothed: radical ones ovate-oblong or spatulate-oblong, somewhat petioled: siliques erect, spreading, twice as long as the pedicels. *S.* Massachusetts. *Arabis thaliana*, 7th edition.

glaucum, N. (☉. p.) glaucous, much branched: leaves entire: radical ones small, spatulate; cauline ovate, sagittate and clasping, rather acute: siliques nearly straight, erect, compressed, with convex valves, four times the length of the pedicels. Oregon.

virgatum, N. (♂. p.) canescently hirsute with simple and stellate hairs: stem virgately branched from the base: leaves lanceolate-linear, clasping, lower ones denticulate or entire: siliques somewhat terete, erect, 4—5 times the length of the pedicels: seeds in a double series. Oregon.

pauciflorum, N. (♂. w.) hirsute with forked hairs: leaves entire: radical ones narrowly oblong-spatulate: cauline lanceolate-linear, sessile: stem rather slender, branching from the base: siliques long, pendulous: seeds in a double series. Oregon.

Sisymbrium, Erysimum.

15—3. Sisyrin'chium. 18. Irid. fod. odo.

anceps, Gay. (2) (blue-eyed grass. O. b. J. ♃.) scape (or culm) simple, 2-edged or 2-winged: glume-like spathe of two nearly equal valves, nearly as long as the flower: petals mucronate. *Sisyrinchium [illegible]*, is a synonyme. 6—12 i. *S.* Mch.

mucronatum, Mx. (W. b. J. ♃.) leaves and scape simple, sub-setaceous: spathe colored, with one valve terminating in a long mucronate point. 9—12 i. *S.* P. M. Mch.

5—2. Si'um. 60. Umbe. r. poi—.

latifolium, (3) (water parsnip. W. w. Ju. ♃.) leaves pinnate: leafets oblong-lanceolate, acutely serrate: stem erect, angular, hollow, smooth. Whenever any of the leaves grow under water they are sub-divided. 1—3 f. *S.* B. N. O. P. F. C. T. Mch.

lineare, Mx. (w. Ju. ♃.) leaves pinnate; leafets linear, sub-lanceolate, acutely and finely serrate: involucres many-leaved, linear: umbels terminal. Probably a variety of the last. Torrey. P. Y. C. F. N.

douglasii, Dc. (w. ♃.) stem terete: leaves sub-pinnate: lower segments gash-3-cleft, these and the rest petioled ovate-lanceolate, coarsely serrate: umbels opposite the leaves and terminal, peduncled without involucres, many-rayed. 2 f. R.

Sium, Œnanthe, Helosciadium.

Smilacina, Convallaria.

Sisyrinchium. Gr. *sus*, a hog, *rugchos*, snout, hogs being supposed fond of rooting it up.

Sium. Gr. *sion*, which De Theis takes from Celt, *sio*, water, from its habitation.

(1) arabidoides, Hk. see p. 164, where Hooker misled me. A. *lyrata* must be struck out under the species *petrea*, as this is the true A. *lyrata*. (2) bermudianum, Mx. gramineum, Lk. (3) denticulatum, E.?

20—6. SMI'LAX. 12. Smila. dia. rat—.

1. *Stems woody.*

quadrangularis. M. (Ju. [illegible].) stem prickly, 4-angled: leaves unarmed, ovate, acute, sub-cordate, 5-nerved. S.

sarsaparilla. (1) (J. [illegible].) prickly: leaves unarmed, lance-ovate, cuspidate, sub-5-nerved, becoming glaucous beneath: the general peduncles longer than the petioles. S. P. Y. S—C.

rotundifolia. (horse-briar, green briar. W. w-g. J. [illegible].) prickles scattered: leaves (when in maturity) round-ovate, acuminate, slightly cordate, 5-nerved: berry spherical. S. B. T. D. N. Mch.

caduca, (W. J. [illegible].) prickly: leaves ovate, mucronate, 5-nerved, membranaceous: general peduncles scarcely longer than the petioles. S. P. Y. S--C.

pseudo-china, (W. M. [illegible].) [illegible]: cauline leaves cordate: ramose ones oblong-ovate, 5-nerved: peduncles very long. S. Y. S--C.

laurifolia, (Ju. [illegible].) prickly: branches unarmed: leaves oval or lance-oval, leathery, recurve-prickly, 3-nerved, perennial: umbels short-peduncled. S. Y. S--C. La.

panduratus, Ph. (Ju. [illegible].) prickly: leaves ovate-panduriform, acuminate, 3-nerved: peduncle twice as long as the common petiole. N. Jersey.

2. *Stems herbaceous.*

tamnoides, (Ju. [illegible].) stem prickly, terete: leaves ovate-oblong, acute, sub-panduriform, obsoletely cordate, 5-nerved: common peduncle longer than the petiole. S.

peduncularis. (jacob's ladder, W. w-g. M. [illegible].) stem terete, climbing or arching over: leaves round-ovate, cordate, acuminate, about 9-nerved: (sometimes but 7) umbels long-peduncled. Damp. 2—3 f. S. T. B. C. O. F. N. V. Mch.

herbacea. ([illegible]. W. g. J. [illegible].) stem angled, erect, simple: leaves long-petioled, oval, about 7-nerved: umbels with long compressed peduncles: berries depressed, globose. Damp. 2—3 f. S. P. C. O. M. F. Mch.

Southern.

hastata. W. (W. Ju. [illegible].) stem angled, prickly: branches unarmed: leaves lanceolate, acuminate, hastate-auricled at the base, 3-nerved, prickly-ciliate on the margin. Var. *lanceolata,* leaves long, narrow, lanceolate. S—C.

bona-nox. (W. Ju. [illegible].) stem unarmed, angled: leaves heart-ovate, acute, 7-nerved, prickly-ciliate.

walteri, Ph. (W. Ju. [illegible].) prickly: leaves heart-ovate, smooth, 3-nerved: berries acuminate.

ovata, Ph. (Ju. [illegible].) generally unarmed: leaves unarmed, ovate, acute, cuspidate, 3-nerved, both sides coloured alike: common peduncle shorter than the petiole.

lanceolata. J. [illegible].) unarmed: leaves lanceolate and ovate, acute or acuminate, 3—5-nerved, very glabrous, perennial: umbels many-flowered; peduncles short. S—C.

alba, Ph. (J. [illegible].) generally unarmed: stem obsoletely angled: leaves lance-elongated, coriaceous, glabrous, very entire, 3-nerved: umbels few-flowered, very short-peduncled.

pumila, Wr. (3) (S. [illegible].) unarmed: leaves heart-ovate, entire, somewhat 5-nerved, soft-pubescent beneath: umbels short-peduncled; pedicels very short: berries oblong, acute: stem procumbent. Charleston, S—C.

cincidifolia, Ph. (W. [illegible].) prickly: leaves unarmed, round-cordate, acuminate, 5-nerved, glabrous on both sides, net-veined, short-petioled.

Smyrnium, SISON, CNIDIUM, ZIZIA.*

Smilax. Gr. *smilax,* of *smile,* a scraper, in allusion to its prickly stem.

* De Candolle has made this genus for our three common species of SMYRNIUM: to wit, *aureum, integerrimum,* and *cordatum.*

(1) glauca, Mx. (2) quadrangularis, W. (3) pubera, Mx.

5—1. Sola'num. 38. Sola. f. & b. poi. r. amy. nut.

dulcama'ra, (bittersweet, woody night shade. W. b-p. Ju. ♄.) stem unarmed, woody, climbing: lower leaves mostly cordate, glabrous: upper ones mostly guitar-hastate, few-flowered: corymbs opposite to leaves. This is the true bittersweet; but the Celastrus scandens is wrongly called so by some. Damp. T. B. C. F. N.

nigrum, (deadly nightshade. O. w. p. b. J. ☼.) stem unarmed, erectish or erect; branches angled, dentate: leaves ovate, repand, glabrous: racemes 2-ranked, nodding. 1—2 f. S. Mch.

carolinense, (horse nettle. W. b. J. ☼.) stem prickly: leaves oblong, tomentose, sinuate-angled, sub-hastate, prickly: racemes lax. 1—2 f. S. P. H. F. M.

flavidum, T. & G. (W.) suffruticose, densely tomentose: branchlets and calyx prickly: leaves solitary, oblong, obtusish: lower ones repand-sinuate; upper ones obsoletely sinuate: racemes opposite the leaves, about 3-flowered.

Exotic.

tuberosum, (potato. b. w. Ju. ♃.) stem wing-angled, unarmed: leaves interruptedly pinnate; leafets entire: flowers sub-corymbed: roots knobbed-tuberous. Cultivated.

lycoper'sicum, (love apple, tomatoes. y. S. ☼.) stem unarmed: leaves pinnatifid, gashed: racemes 2-parted, leafless: fruit glabrous, torulose.

melonge'na, (egg-plant. J. ☼.) stem unarmed: leaves ovate, tomentose: peduncles pendant, incrassate: calyx unarmed.

pseudo-capsicum, (jerusalem cherry. ♄.) stem woody: leaves lanceolate, repand: umbels sessile.

Southern.

mammosum, (y. Ju. ☼.) stem prickly, herbaceous: leaves cordate, lobe-angled, villose on both sides, prickly.

virginianum, (b. Ju. ☼.) stem erect, prickly: leaves pinnatifid, prickly on both sides; divisions sinuate, obtuse; margin ciliate: calyx prickly.

triflorum, N. (W. w. Ju.) stem unarmed, herbaceous, procumbent: leaves tooth-pinnatifid, smooth; divisions acute, sub-sinuate: margin sub-revolute: peduncles opposite the leaves, 2—3-flowered. 1 f.

james'ii T. & G. (W. w? ☼.) herbaceous, somewhat pilose: stem unarmed, erect: leaves unequally pinnate; leafets lance-ovate, abruptly narrowed at the base, obsoletely sinuate: racemes few-flowered, a little out of the axils.

verbascifolium, W. (♄.) stem unarmed, fruticose: leaves ovate, tomentose, very entire: corymbs 2-cleft, terminal.

hirsutum, N. (p. ♃.) small, pilose, hirsute: leaves broad-obovate, very obtuse, sub-entire, attenuated at the base: [illegible] [illegible], raceme somewhat 3-flowered: peduncles filiform. Georgia.

Solea, Ionidium.

17—2. Solida'go. (1) 55. Aster. ast. sec-sti—.

1. *Flowers one-sided. Leaves with three combined nerves.*

canadensis, (canadian golden-rod. O. y. Ju. ♃.) stem downy: leaves lanceolate, serrate, rough: racemes copious, panicled, recurved: rays hardly longer than the disk: stem angular: leaves sessile, three inches long, sometimes nearly entire. 2—5 f. S. Mch.

pro'cera, A. (great golden-rod. O. y. Ju. ♃.) stem villose, erect: leaves lanceolate, serrate, rough, villose beneath: racemes spike-form, erect, drooping before flowering: rays short. 4—7 f. S.

sero'tina, W. (smooth golden-rod. O. y. S. ♃.) stem erect, terete, smooth: leaves lance-linear, glabrous, serrate, rough-edged: racemes panicled: peduncles downy. The young leaves are edged with many little stiff white hairs. Mch.

Solanum. Uncertain. Some derive it from Lat. *sol*, sun, and Greek *anca*, without, having reference to the nightshade species.

Solidago. Lat. *solido*, to make firm: from its consolidating or astringent qualities

(1) In this troublesome genus, most of the extensive and accurate descriptions of President J. E. Smith are given. He took a review of Pursh, and of all preceding writers, and then wrote, with specimens of almost every species before him.

gigantea, (giant golden-rod. O. y. Au. ♃.) stem erect, glabrous: leaves lanceolate, smooth, serrate, rough-edged, obscurely 3-nerved: racemes panicled: peduncles rough-haired: rays short. 4—7 f. S.

ciliaris, W. (fringed golden-rod. O. y. ♃.) stem erect, glabrous: leaves lanceolate, somewhat 3-nerved, glabrous, rough-edged, slightly serrate: racemes panicled; peduncle glabrous: bracts ciliate: rays short. The stem is angular: radical leaves petioled, oval, pointed, veiny, serrate, rough, near a foot long: branches of the panicle spreading: bracts minute.

reflexa, W. (hang-leaf golden rod. y. Au. ♃.) stem erect, villose: leaves lanceolate, sub- serrate, scabrous, reflexed: racemes panicled, very little 1-sided, reflexed. S. P. Y.

lateriflora, (side-flowered golden-rod. y. Au. ♃.) stem erect, a little hairy: leaves lanceolate, slightly 3-nerved, glabrous, rough-edged: lower ones sub-serrate: racemes panicled, a little recurved, sub-secund: flowers large, the rays being much longer than the involucre: stem striated, often purplish, pinnatifid, with numerous lateral flowering branches. 2—3 f. S. P. Canada. M.

2. *Racemes or flowers one-sided. Leaves veiny.*

aspera, A. (rough golden-rod. y. Au. ♃.) stem erect, terete, hairy: leaves ovate, somewhat oval, very rough, rugose, serrate: racemes panicled: leaves one to two inches long, acute: racemes dense, somewhat conic: ray florets twice as long as the involucre. 3—4 f. S. P. Y. C. F.

altissima, W. (variable golden-rod. O. y. Au. ♃.) stem erect, rough-haired: leaves lanceolate: lower ones deeply serrate, scabrous, rugose. The panicled racemes are very numerous and spread every way, so as to bring the one-sided flowers upwards: rays half as long again as the involucre. But this species is so variable, that students generally endeavor to make several species of it. The serratures of the leaves are equal and unequal: it is hairy or villose, and sometimes racemes diverge but little. 3—6 f. S.

rugosa, W. (wrinkled golden-rod. O. y. Au. ♃.) stem erect, rough-haired: leaves lanceolate, scabrous, rugose; lower ones with close-pressed serratures: racemes panicled, very spreading. Leaves shorter and broader than the last, and the flowers a little smaller; like it very variable, and perhaps only one of its numerous varieties. 3—6 f. S.

scabra, W. (harsh golden-rod. O. y. Au. ♃.) stem erect, rough-haired, furrowed: leaves oblong, tapering to both ends, acuminate, glabrous above, rugose and scabrous beneath, along the middle close-pressed-serrate. 2—5 f. S.

nemoralis, A. (woolly golden-rod. W. y. Au. ♃.) stem erect, downy: cauline leaves lanceolate, hispid, entire: radical ones somewhat wedge-form, serrate: racemes panicled. Of a grey aspect. 1—3 f. S. T. B. P. F. V. Canada. Mch.

patula, M. (spread golden-rod. O. y. S. ♃.) stem erect, glabrous: leaves oval, serrate, glabrous; radical ones oblong-spatulate: racemes panicled, spreading: peduncles pubescent. Stem wand-like, angular and striate: stem-leaves sessile, about an inch long, pointed; the radical ones resemble those of the ox-eyed daisy: racemes about an inch long: flowers rather large. 2 f. S.

ulmifolia, M. (elm golden-rod. O. y. Au. ♃.) stem erect, glabrous, striate: leaves oval, deeply serrate, acuminate, villose beneath: radical ones obovate: racemes panicled: peduncles villose: rays short. Radical leaves resemble those of the last species, and are hairy both sides, some of the rest are oblong-ovate, and only villose near the veins beneath: the petioles are bracted. 3—4 f. S.

arguta, A. (sharp-notched golden-rod. O. y. S. ♃.) stem erect, glabrous: leaves glabrous, sharply and unequally serrate; cauline ones oval; radical ones oblong-ovate: racemes panicled: rays elongated. 2—3 f. S. K.

juncea, (rush-stalk golden-rod. y. Au. ♃.) stem erect, glabrous: leaves lanceolate, glabrous, rough-edged; lower ones serrate: racemes panicled. Stem brownish, somewhat angular and striate, leafy: racemes a finger's length, dense, recurved-spreading: compound pedicels roughish, bracted: rays twice as long as the involucre. 2—3 f. S. P. C.

elliptica, W. (1) (oval-leaf golden-rod. y. Au. ♃.) stem erect, glabrous: leaves oval, smooth, serrate: racemes panicled: rays of middling length. 2—4 f. S. P. Y. F. K.

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(1) latissimifolia, Miller.

asperata, Ph. (♃.) stem corymb-panicled: racemes erectish: flowers ascending: leaves lanceolate, serrate, scabrous. Described by Pursh from dried specimens.

recurva'ta, W. (curved golden-rod. W. y. S. ♃.) stem erect, pubescent: leaves lanceolate, serrate, rough-edged: racemes elongated, recurved-panicled. S. P. C. Mch.

sempervirens, (narrow-leaf golden-rod. y. S. ♃.) stem erect, glabrous: leaves lanceolate, somewhat fleshy, smooth, entire, rough-edged: racemes panicled: peduncles hairy: stem tall, purplish, a little glaucous: leaves many, narrow, long: ray florets long, narrow, rather numerous. 3—5 f. S. P. Y. C. Canada.

odora, W. (sweet-scented golden-rod. O. y. Au. ♃.) stem erect, pubescent: leaves lance-linear, entire, glabrous, rough-edged: racemes panicled. The upper part of the stem is furrowed: racemes 2 or 3 inches long, spreading horizontally, each generally accompanied by a leaf: bracts oblong, smooth: stalk angular and rough. This is the true golden-root tea-plant. 3 f. S. Sto. sti.

villosa, Ph. (y. S. ♃.) stem erect, villous: leaves lanceolate, rather soft, serrate, nerveless: racemes panicled, one-sided. Stem robust: branches recurved, expanding. 2—3 f.

uliginosa, N. ( ) very glabrous: racemes erectish, short-panicled, sub-fastigiate: stem simple, attenuate: leaves unequal: cauline ones entire, lance-linear, sessile; inferior and radical ones appressed-serrulate, lance-oblong, irregularly attenuated, petioled. Sphagnous swamps, Mass.

3. *Racemes erect.*

specio'sa, N. (y. S. ♃.) stem tall, smooth: branches virgate: leaves lanceolate, sub-coriaceous, scabrous on the margin; lower ones sparingly serrate: racemes erect, compound: peduncles pubescent: florets of the ray five, long: akenes glabrous. 3—6 f. S.

virgata, Mx. (y. Au. ♃.) stem simple, smooth: leaves lanceolate, somewhat wedge-shape, obtuse, entire, glabrous, close-pressed; upper ones gradually smaller: branches of the panicle elongated, with terminal clusters: peduncles smooth, one-sided. Slender. 2 f. S. C.

bi'color, (white golden-rod. O. w. Au. ♃.) stem hairy: leaves oval, hairy; lower ones serrate; those on the flower branches entire, numerous and small: scales of the involucre obtuse. Racemes are short and compact: rays white, somewhat numerous and shortish; disk-florets rather numerous. 2—4 f. S. M.

petiolaris, W. (late golden-rod. y. Oc. ♃.) stem erect, villose: leaves oval, roughish, petioled: rays twice as long as the involucre. Stem branching, terete, hoary: leaves hoary about the ribs, over an inch in length; those covering the flower-branches sub-entire: racemes numerous, short, with few and rather large flowers. 2—3 f. S. P. Y.

stricta, (willow-leaf golden-rod. W. y. Au. ♃.) stem erect, glabrous: cauline leaves lanceolate, entire, glabrous, rough-edged; radical leaves serrate: racemes panicled, erect; peduncles glabrous. The branches of the panicle are erect, simple, close. 2 f. S. P. Y. C. N.

confertiflora, N. (y. ♃.) robust: stem erect, branching, pubescent: leaves smoothish; lower ones very broad, spatulate oval, serrate, acute; margin scabrous: the upper ones sessile, lance-oval, entire: racemes compound, erect: involucre squarrose, many-flowered: ray-florets long, (10 or 12.) 2—5 f. S. P. Y. N.

graminifolia, (1) (grass-leaf golden-rod. O. y. S. ♃.) stem (rough-haired, Willd.) very furrowed, smoothish: leaves almost linear, (lance-linear, Willd.) entire, roughish, nearly erect, with 3 or 5 rough nerves: corymbs terminal, level-topped: flowers in heads: rays not longer than the disk. Stem leafy: leaves sessile, grass-green, about two inches long, and a quarter of an inch wide: flowers smallish: involucre ovate, smooth, shining, with tumid green-tipped scales. 4—5 f. S. Mch.

tenuifolia, Ph. (2) (pigmy golden-rod. W. y. S. ♃.) stem rough, angular, branched, corymbed: leaves spreading, linear, very narrow, slightly 3-nerved, scabrous, with axillary tufts of smaller ones. corymbs terminal, level-topped: flowers in heads: rays scarcely exceeding the disk. Leaves very small and narrow. 1—2 f. S. Y. P.

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(1) lanceolata, A. Chrysocoma. L. Euthamia, N. (2) lanceolata, Var. minor, Mx.

cae'sia, W. (blue-stem golden-rod. W. y. Au. ♃.) stem nearly erect, very smooth and even: leaves lanceolate, glabrous, acuminate, with the margin and nerves roughish: rays rather longer than the disk. Stem upright, somewhat zigzag, branched, leafy: leaves about two inches long, sub-entire, sub-glaucous, paler beneath: racemes numerous, short, rough-pedicelled: bracts small, smooth, subulate. 2—3 f. S.

livida, W. (purple stem golden rod. y. S. ♃.) stem glabrous, panicled: leaves lanceolate, serrate, glabrous, rough-edged: branches racemed at the extremity: rays elongated. Stem branched, dark purple: leaves tapering to both ends. S. P. N.

hispida, W. (O. y. Oc. ♃.) stem erect, hispid, scabrous: leaves lanceolate, rough, entire; radical ones serrate: rays of middling length. Resembles the *cæsia*. S.

lithospermifolia, W. (y. S. ♃.) stem branching, pubescent: leaves lanceolate, scabrous on both sides, tapering, 3-nerved, entire: ray-florets elongated. S.

puberula, N. (y. ♃.) stem simple, terete, sub-pubescent: leaves lanceolate, entire, slightly pubescent both sides, tapering to both ends: radical ones sub-terete: racemes spiked, axillary, erect and condensed: peduncles pubescent: scales of the involucre lance-linear, acute: ray florets about 10, elongated. Stem brownish, simple pubescent. 1—2 f. S. Y. Mch.

lævigata, A. (flesh-leaf golden rod. y. S. ♃.) stem erect, smooth: leaves lanceolate, fleshy, entire, smooth in every part: racemes panicled: peduncles scaly, villose: rays twice as long as the involucre. Tall, strong. Probably a variety of *mexicana*. Grows in salt marshes. 4—6 i. S. P. Y. B. C. M.

limonifolia, P. (1) (y. S. ♃.) stem oblique, glabrous: leaves lanceolate, somewhat fleshy, entire, smooth on both sides: racemes panicled, erect: peduncles scaly, glabrous or sub-pubescent: ray-florets elongated. Stem generally purple: leaves somewhat clasping; lower ones a foot long. Wet. 3—5 f. S.

viminea, W. (2) (twig golden-rod. y. Au. ♃.) stem erect, sub-pubescent: leaves lance-linear, membranaceous, tapering to the base, glabrous, rough-edged; the lower ones sub-serrate: rays elongated. Peduncles and branches angular, and very rough: bracts lanceolate, recurved, smooth: flowers numerous. S. P. Canada.

macrophylla, Ph. (y. Au. ♃.) lower leaves ovate, acuminate tapering, unequally and sharply serrate, glabrous: cauline leaves tapering to both ends, lanceolate, sub-sessile, serrate: racemes axillary, peduncled, leafy, of the length of the leaves: involucre oblong, turgid, many-flowered: rays somewhat elongated. Intermediate between this genus and the aster. 2—3 f. T. B. Canada.

flexicaulis, Ph. (zigzag golden rod. W. y. Au. ♃.) stem zigzag, glabrous, angled: leaves lanceolate-acuminate, serrate, glabrous: racemes axillary: rays half as long again as the involucre. Stem slender, purplish, partly terete and partly angular: leaves numerous on short broad petioles, hardly 2 inches long, and half an inch wide, paler beneath; the upper less serrate: racemes much shorter than the leaves, the upper ones sub-capitate. 2—3 f. S. Mch. M.

latifolia, M. (3) (broad-leaf golden-rod. W. y. Au. ♃.) stem somewhat zigzag, angular, smooth: leaves ovate-acuminate, strongly serrate, smooth, contracted into winged petioles: racemes axillary. Leaves often 2 inches broad, and sometimes hairy on the under side of the midrib. W. T. Y. P. C. O. N.

axillaris, Ph. (4) (axil golden-rod. W. Au. ♃.) stem glabrous, terete, straight: leaves lanceolate, serrate, glabrous: racemes axillary, sub-globose, erect: ligulate florets elongated. T. Mch.

virgaurea, (european golden-rod. y. ♃.) stem flexuous, angular, pubescent: leaves serrate, roughish, attenuated at the base: racemes erect, panicled, close: rays elongated. Flowers large; rays 5—10: upper leaves nearly entire. 1—3 f. Var. *alpina*, leaves obovate or lanceolate, mostly entire: flowers few. 3—6 i. This species is the only one common to the two continents. Bw. White Mts. D.

multiradiata, W. (y. S ♃.) stem somewhat villose: leaves sessile, lanceolate, glabrous, ciliate: lower ones serrate at the apex: raceme terminal, erect: rays elongated, numerous. Labrador.

rigida, (hand-leaf golden-rod. W. y. Au. ♃.) stem corymbed, hairy, scabrous: leaves ovate-oblong, rough, with minute, rigid hairs; lower ones serrate, upper ones entire: racemes compact: rays twice the length of the obtuse involucre. Stem terete, striate, leafy: leaves a little hoary; radical ones petioled, 12 inches long, broad, acuminate, nerved; the rest 1 to 4 inches long: scales of the involucre round-obtuse, nerved, membranaceous at the edges. 3—5 f. S. P. Y. C. Mch. K.

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(1) mexicana, L. (2) integerrima, Miller. (3) flexicaulis, Mx. 1st variety. Var. latifolia, P. (4) flexicaulis, Mx. 3d variety.

noveboracensis, (star golden-rod. y. Oc. ♃.) radical leaves oval-oblong, long-petioled, rough: stem almost leafless, branched, furrowed, level top corymbed: rays twice as long as the tapering calyx. Stem erect, rough, furrowed, having leaves only at the origin of the flowering branches: radical leaves with stalked serratures: flowers large, resembling in form some asters: calyx scales narrow, purplish. 2—3 f. Y. N.

Southern.

1. *Racemes one-sided.*

cineras'cens, Sz. (y. S. ♃.) stem erect, slender pubescent: leaves elongated, lance-linear, attenuate at the base, serrate, sub-scabrous on both sides: racemes recurved: peduncles and ray-florets elongated. Upper leaves small, distant. 3 f.

retrorsa, Mx. (y. S. ♃.) stem erect, terete, glabrous, (rough, S.) leaves closely sessile, linear, tapering above, glabrous, pellucid-punctate, reflexed, rough on the margin: branches of the panicle recurved. Stem pubescent above: leaves somewhat clasping, slightly mucronate. 3—4 f. S—C.

tortifolia, E. (1) (y. S. ♃.) stem erect, pubescent: leaves lance-linear, sub-serrate, spreading, twisted; midrib and upper surface scabrous, nearly glabrous beneath: panicle pyramidal: racemes recurved. Stem very pubescent above: leaves sometimes pubescent beneath, obscurely 3-nerved: panicle very compact. 3f.

pyramidata, Ph. (y. S. ♃.) stem erect, terete, hispid: leaves oblong, acute, somewhat clasping, sessile, glabrous, scabrous on the margin, rarely and obsoletely toothed: panicle naked, secund, pyramidal: branches reflexed: peduncles glabrous. 4—6 f.

corymbosa, E. (y. S. ♃.) stem erect, glabrous, branches hispid: lower leaves lance-oblong; upper ones ovate; all fleshy, glabrous, rigid, scabrous and ciliate on the margin: racemes corymbed; lower ones recurved: ray-florets elongated. Stem robust: leaves close-sessile: lower ones sub-dentate; upper ones generally entire. 4—6 f.

pitcheri, N. (   ) racemes secund, glabrous: leaves conformable, smooth, thickly set, lance-oblong, acuminate at both ends, sharply serrate: panicle pyrmidal, shortish, few-flowered: pedicels pubescent: liguli abbreviated. Arkansas.

radula, N. (   ) racemes erectish, finely pubescent, scabrous: leaves oblong, sessile, entire, sub-reticulate, thick below: panicle contracted, sub-racemed: scales of the involucre oblong: liguli very short. Arkansas.

lanata, H. (   ) wholly arachnoid-woolly: leaves lance-spatulate, appressed-serrate; lower ones petioled: upper ones small, very entire: racemes erect, terminal, sub-simple: leafets of the involucre obtuse, sub-glabrous. R.

2. *Racemes erect.*

pubescens, E. (y. Oct. ♃.) stem erect, branching, pubescent: leaves long, lanceolate, tapering at the base, pubescent; lower ones serrate: racemes erect, panicled: ray-florets middle size. Stem slightly scabrous, generally colored: branches rigidly erect: upper leaves generally entire; lower ones almost spatulate. 3—4 f.

pauciflosculosa, Mx. (y. S. ♃.) glabrous, suffruticose: leaves lanceolate, obtuse, nerveless: panicle compound, many-flowered; fascicles erect: involucre oblong, 5-flowered: ray-floret one.

pulverulenta, N. (y. ♃.) stem simple: stem and leaves pulverulent-pubescent: leaves sessile; lower ones oval, serrate: upper ones obovate, entire, scabrous on the margin: racemes erect, spike-form: ray-florets (10.) elongated. The lower leaves somewhat resemble those of the the Spiraea salicifolia, E. 3—4 f.

erecta, Ph. (y. S. ♃.) stem simple: stem and peduncles pubescent: leaves lanceolate, acute at each end, glabrous, veiny, scabrous on the margin: racemes short, erect, axillary and terminal. There is great uncertainty about this species. E. 2 f.

hirta, W. (y. ♃.) stem panicled, rough: leaves lanceolate, scabrous on both sides; cauline ones serrate; branch ones very entire: racemes erect: rays elongated.

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(1) odora, Mx.

glomerata. Mx. (A. y. ♃.) stem low, simple: leaves glabrous, lance-oblong, serrate: racemes simple, composed of axillary [illegible]: upper ones clustered: involucre tumid, many-flowered. Lower leaves broad-oval, acuminate, serrate. Nearly allied to Aster. N. K.

[illegible]. Ph. ([illegible]) stem simple, erect, glabrous: leaves lanceolate, serrate, glabrous, attenuate at the base, [illegible]

[illegible]. Ph. (y. S. [illegible]) leaves lance-oval, acute, sub-entire, [illegible] panicled rays elongated. Leaves sessile, rather small, with elevated veins. 2—3 f.

[illegible] [illegible] a little scabrous: branches virgate, elongated, [illegible] ve, glabrous beneath; [illegible], sometimes recurved. Stem [illegible] leaves sessile, diminishing upwards; lower ones paler beneath. 4—5 f.

angustifolia, E. (y. S. [illegible]: leaves subulate-linear, very entire, glabrous. [illegible]. Stem slender: branches numerous: leaves sessile, [illegible], slightly scabrous on the margin. 2—3 f.

missouriensis. N. [illegible] erect: leaves lance-linear, acute, gasin-sub-serrulate; upper [illegible] short, lax: flowers largish. 1 f. Arkansas.

cordata, Short & P[illegible]. ([illegible]) stem stricted, pubescent: lower leaves petioled, cordate, sharply and [illegible] serrate, acute: upper ones ovate, gradually becoming sessile and [illegible] and serrate: spikes axillary and terminal, [illegible] involucre lanceolate, obtuse, appressed. 2—4 f. K.

ohioensis. Riddell. ([illegible]) stem simple: radical leaves (when they precede the stem) [illegible], retuse, acute and entire at the base, serrate towards the summit: [illegible]: cauline leaves entire, half clasping, lanceolate, acute: corymb fastigiate. Wet grassy prairies, Ohio.

riddellii, [illegible] leaves very entire, glabrous, scabrous at the margin; lower [illegible] sub-falcate-lanceolate, sub-acute, distinctly [illegible] lance-oblong, acutish, obsoletely nerved; pe[illegible], striate, corymb-panicled: racemes or fas[illegible] obtusely ovate, half as long as the liguli: pedicels bracted, sub-villose. 2 f. O.

squarrosa. N. [illegible] pubescent: racemes lax, few-flowered, axillary. pa[illegible]: leafets of the involucre reflexed: leaves [illegible]: lower ones obovate, sub-serrate.

hirsuta. N. ([illegible]) erect: stem simple: flowers sub-racemose-glomerate: leaves [illegible], elliptic-ovate; radical ones spatulate, crenulate. K.

17—1. Son'chus. 53. Cich. sal. sec-sti. *haem.*

arvensis, (corn sow-thistle. W. [illegible] An. [illegible]) involucre and peduncles hispid, sub-umbelled: leaves runcinate, denticulate, cordate at the base: root creeping. P. Y. C. F.

oleraceus. (common sow-thistle. O. y. Jn. [illegible]) peduncles sub-tomentose, umbelled: involucre glabrous: leaves [illegible], clasping, denticulate, sub-sinuate. Var. *aspera*, prickly. [illegible]. 2—5 f. S. Mch.

macrophyllus. W. (W. a. An. [illegible]) peduncles hirsute, naked: flowers panicled: leaves large, lyrate, cordate at the base, [illegible] beneath. 4—7 f.

spinulosus. Bw. (W. L. y. An. [illegible]) peduncles smooth, somewhat umbelled: leaves cordate at the base, oblong, clasping, waved, spinose. 2 f. T. B.

alpinus, W. (1) (mountain sow-thistle. b-w. An. [illegible]) peduncles hirsute, naked: flowers racemed, bracted: leaves runcinate, sagittate at the base, glabrous, glaucous beneath. Canada.

leucophaeus, W. (2) (sow-thistle. W. b-w. Jn. ♂.) peduncles scaly: flowers racemed: leaves runcinate, acuminate: stem wand-panicled. 3—5 f. S. P. N. F. K.

floridanus. W. (W. b. Jn. ♂.) peduncles somewhat scaly: flowers panicled: leaves runcinate-lyrate, petioled, denticulate. Pursh says this is called *the gall of the*

Sonchus. Gr. *sogchos*, the ancient name of this plant.

(1) montanus, Lk. caeruleus, S. canadensis, L. (2) spicatus, Lk.

earth, and is used for curing the bite of the rattlesnake; but Mr. Elliot applies that name to the *Prenanthes alba;* the root of which he says is very bitter. 3—6 f. S. P. Y.

acuminatus, W. (W. b. Au. ♂.) peduncles somewhat scaly: flowers panicled: radical leaves sub-runcinate; cauline ones ovate, acuminate, petioled, denticulate in the middle. 3—4 f. S. P. Y. B.

pallidus, W. (1) W. y. Ju. ♃.) flowers in a compound terminal raceme or panicle: leaves lance-ensiform, clasping, toothed. F.

Southern.

ludovicianus, N. (W. y. J.) leaves all runcinate, retrorsely and sharply toothed: peduncles and involucre naked: panicle divaricate. Chaff conspicuously stiped. N. 3—5 f.

carolinianus, Wr. (y. Au. ☉.) stem erect, glabrous: leaves lanceolate, acute, undulate, sub-spinose-toothed, auricled at the base, half-clasping: flowers somewhat umbelled. 1—3 f.

sibericus, Lin. (b. ☉.) leaves lanceolate, sessile, glabrous, very entire, dentate, or runcinate-pinnatifid: peduncles squamulose, panicled, and with the involucre glandulous-hispid. D. A. R.

Sonchus, LACTUCA.

10—1. SOPHO′RA. 93. Legu. f. nut. asc.

Southern.

sericea, N. (W. w. ♃.) leaves pinnate: leafets wedge-oval, smooth above, silky-villose beneath: spikes many-flowered, sub-sessile. 1 f.

Sophora, BAPTISIA.

Sorbus, PYRUS,

3—2. SORG′HUM. 10. Gram. far. ton. sug.—

Exotic.

saccharatum, (broom corn. y-g. Au. ☉.) panicle somewhat whorled, spreading: fruit oval: glumes covered with permanent softish hairs: leaves linear. From the East Indies. 6—8 f.

vulgare, (indian millet, coffee corn. ♃.) panicle compact, oval, nodding when mature: fruit naked, sub-compressed. Var. *bicolor*, glumes glabrous, black: seed globose. 5—7 f.

19—3. SPARGA′NIUM. 8. Typh. ton—.

ramosum, Sw. (2) (bur-reed. O. w. Ju. ☉.) the 3-sided bases of the leaves concave on the two outsides: the general fruit stem branched: stigmas linear. In water generally. Flowers in round heads: the staminate heads above the pistillate ones, and considerably the smallest. 1—2 f. S.* Mch.

americanum, N. (3) (lake bur-reed. W. w.) lower leaves about equally the length of the stem; floral leaves concave at the base, erect: stigma simple, ovate-oblong, oblique, about half as long as the style. The stem is erect, nearly simple. Grows plentifully in a small swamp in Troy, about a mile east of Rensselaer School. 1 f. S. T. C. P. F. Mch. S—C.

angustifolium, Mx. (4) (floating bur-reed. W. w. Au. ♃.) leaves flat, long linear,

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Sophora. An alteration of the Arabic name *sophera;* the name of a beautiful tree.

Sorghum. Sorghi is the Indian name, according to Bauhin.

Sparganium. Gr. *sparganon*, a band or fillet; alluding to the long, linear form, and pliant texture of the leaves.

(1) Lactuca canadensis, L. (2) erectum, L. (3) simplex, Ph.? (4) natans, Var. *a*. Ph.

* Mr. Elliott describes a plant under *americanum* which does not agree with that plant in the vicinity of Troy. I have before me all the three species here described, and have often seen them growing. The plant of E. cannot possibly be either of them, unless it is the *ramosum*. I do not believe that the *simplex* is an American plant.

very narrow, much longer than the stem, weak; the part above water floating on its surface. Grows in great abundance in the little lake on Catskill mountain, 12 miles west of the village, near the Mountain House. P. B. N.

17—1. Sparganoph'orus. 55. Anth. ton. cat.

verticillatus, Mx. (water crown-cup. p. Au. ♃.) leaves linear, whorled: heads few, terminal: egret campanulate, 5-toothed. Floating in water. 1 f. S. Y.

Spartina, Limnetis.

16—10. Spar'tium. 93. Legu. b. bit-ton.

Exotic.

junceum, (spanish broom. J. ♄.) branches opposite, wand-like, bearing flowers at the end: leaves lanceolate, glabrous.

scoparium, (scotch broom. J. ♄.) leaves ternate and solitary, oblong: flowers axillary: legumes pilose at the margin: branches angular.

5—1. Specula'ria. 52. Camp. ton.

Exotic.

amplexicaulis, speculum, described under Campanula.

10—5. Sper'gula. 82. Cary. demo—.

arvensis, (corn spurry. W. w. J. ♃.) leaves filiform, whorled: panicle dichotomous: peduncles become reflexed as the fruit advances to maturity: seed reniform. 8—12 i. S. R. T. W. C. F. N. Mch.

saginoides, (1) (pearl spurry. w. J. ♃. or ☉.) glabrous: leaves opposite, subulate, naked: peduncles solitary, very long. Persoon asks whether this is not a variety of the Sagina procumbens. 2—3 i. S. C. F. New Jersey.

nodosa, Hk. (W.) leaves subulate, opposite, glabrous, connate; lower ones sheathing, upper ones proliferous in the axils: petals twice as long as the calyx. Canada. N. W. Lakes.

subulata, Hk. (W.) glabrous or sub-pubescent: leaves narrowly linear-subulate, mucronate: peduncles long, solitary: petals equalling the calyx and capsule. R.

rubra, T. & G. (red sand-wort. r. J. ☉.) glabrous, humifuse: leaves filiform, fleshy, longer than the joints: stipules cuneate-membranaceous, sheathing: stamens 5: capsule angular or globose. 6 i. P. Y. C. T. R. *Arenaria, rubra*, 7th edition.

4—1. Spermaco'ce. 57. Cinc. ton. ast. feb.

Southern.

tenu'ior, (w. Ju. ☉.) stem erect, glabrous: leaves lanceolate, scabrous above, nearly glabrous beneath: flowers whorled: seeds rough. Stem sometimes pubescent and flowers nearly solitary. Swartz.

glabra Mx. (W. w. J. ☉.) stem procumbent, glabrous: leaves lance-ovate, glabrous on both sides: flowers whorled: seeds glabrous.

involucrata, Ph. (w.) stem very hispid: branches alternate: leaves lance-ovate, acuminate, hirsute on both sides: stipules many-bristled: heads terminal, involucred: stamens exsert. 1 f.

lasiantha, Raf. ( ) stem weak: branches diffuse: leaves sessile, oblong, acute; nerves scabrous: flowers verticillate: corol woolly within. Louisiana.

Sparganophorus. Gr. *sparganon*, a fillet, and *pherō*, to bear; because the seed is crowned with a membranous band.

Spartium. Gr. *spartīon*, a rope: because of the use made of its branches in cordage.

Specularia. Lat. *speculum*, a mirror; the old name of the leading species in the genus.

Spergula. Lat. *spergo*, to scatter, from the dispersion of its seeds.

Spermacoce. Gr. *sperma*, seed, and *akōke*, a sharp point; the seeds pointed.

(1) decumbens, E.

15—12. SPHAERALCEA. Mah. emo. muc.

stellata, T. (p) densely clothed with a [illegible] pubescence: leaves oblong-lanceolate, acute, petioled, erosely serrate, rugose: peduncles axillary, 3—5-flowered: flowers aggregated: carpels 12—14, bimucronate, 2-seeded. Oregon.

acerifolia, N. (p.) minutely roughish-tomentose with a stellate pubescence: leaves 5-lobed, somewhat cordate: the lobes acute, toothed, unequally serrate: peduncles aggregated, terminal: carpels 12—14, pointless. Oregon. Globe mallows.

5—1. SPIGE'LIA. 46. Spi. g-h. ath+. cath—. nar—.

marylandica, (pink-root. W. p. J. [illegible]) stem 4-sided: leaves all opposite, sessile, lance-ovate, entire. A celebrated vermifuge. 9—18 i. S. P. Florida. S—C.

20—5. SPINA'CIA. 29. Chen. nut. lax.

Exotic.

olera'cea, (spinach. J. ☉.) fruit sessile, prickly or unarmed: leaves hastate-sagittate: stem branched. In habit resembles the Chenopodium album. 1—2 f.

11—5. SPIRÆ'A. 92. Ros. h. ton+. aro—.

1. *Stem more or less woody.*

salicifolia, A. (1) (meadow-sweet, willow hard-hack. G. r. w. J. [illegible]) leaves lance-ovate or obovate, serrate, glabrous: flowers in [illegible] spreading racemes. Var. *alba*, has white petals, and generally the twigs are reddish. The small branches are generally killed by frost in the winter, [illegible] species. [illegible] f. S. Mch.

tomentosa, (steeple bush, purple hard-hack, [illegible]. G. r. Jn. [illegible]) leaves lanceolate, unequally serrate, downy beneath: flowers in a crowded, sub-panicled spike. 2—3 f. S. Mch.

hypericifolia, (john's-wort hard-hack. w. M. [illegible]) leaves [illegible], entire or toothed at the apex: umbels sessile. Cultivated. 3 f. P. Canada.

chamaedrifolia, Lin. ( ) leaves ovate or oval, unequally serrate, rarely sub-lobed, sub-glabrous: corymbs [illegible]: lobes of the calyx pubescent. Var. leaves [illegible], obtuse, [illegible] or sub-pubescent. A. Canada.

douglassii, H. (r.) branches [illegible]: leaves ellip[illegible], coarsely and unequally serrate above, [illegible] oblong, obtuse: flowers small: stamens [illegible] as long as the [illegible]: lobes of the calyx triangular, reflexed: carpellae 5, very glabrous, shining. A.

menziesii, H. (r.) branched [illegible] calyx triangular, reflexed, smoothly pubescent: leaves [illegible] similar-colored and glabrous beneath: panicle [illegible], flowers small: stamens twice as long as the corol. A.

corymbosa, R. (A. r-w. [illegible]) leaves [illegible] beneath: corymb terminal, peduncles [illegible], somewhat leafy. This may be the *chamaedrifolia* of Pursh, but probably not of L. Torrey.

crenata, ([illegible].) leaves obovate [illegible] at the apex: corymbs pedunceled, crowded. Y. H.

opulifolia, (nine-bark, [illegible]. W. [illegible]) leaves sub-ovate, lobed, doubly-toothed or [illegible] terminal, crowded: carpels inflated: flowers trigynous. Wet. 3—5 f. S. T. C. P. D. Mch.

capitata, Ph. (W. J. [illegible]) leaves [illegible] doubly toothed, reticulate

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Sphaeralcea. Gr. *sphaira*, globe, *althaios*, mallows. Fruit in globular heads, and of the mallows family.

Spigelia. In honor of Adam Spigelius, an old botanist of considerable note.

Spinacia. Lat. *spina*, a thorn, from the processes of the seed.

Spiræa. Gr. *speiron*, spiral coil; in allusion to the spire-like inflorescence of some species.

(1) alba, M.

beneath, tomentose: corymbs terminal, crowded, sub-capitate, very long-peduncled: calyx tomentose.

sorbifolia, Ph. (W. w. Au. ♄.) leaves pinnate; leafets uniform, serrate: flowers panicled.

monogyna, T. (W. ♄.) leaves broad-ovate, sub-3-lobed, gash-serrate, glabrous: corymbs umbelled: style one: pedicels glabrous: divisions of the calyx erect, spreading: germs villose. S.

2. *Stem herbaceous.*

aruncus, W. (steeple-weed. W. A. w. J. ♃.) leaves 2—3-pinnate: flowers in a panicled spike: styles 3 to 5. Var. *americana*, has very long slender spikes. 4—6 f. S. P. M. Catskill.

lobata, (W. r. Ju. ♃.) leaves pinnate, glabrous: the odd leafet large, 7-lobed: lateral ones 3-lobed: corymbs proliferous. P.

dis'color, Ph. (W. Ju. ♄.) leaves ovate, sub-lobed, toothed, obtuse, white-tomentose beneath, smooth above, short-petioled: panicle terminal, very branching; branches white-pubescent: calyx and germs villose.

betulifolia, Pall. (W. A. r. J. ♄.) leaves broad-ovate, gash-toothed, glabrous: corymbs terminal, compound, fastigiate, leafy. 1 f.

Exotic.

ulmaria, (queen of the meadow. w. r. Au. ♃.) leaves pinnate, downy beneath; the terminal leafet larger, 3-lobed: the lateral ones undivided: flowers in a proliferous corymb. Stem herbaceous.

Spiraea, GILLENIA.

Spiranthes, NEOTTIA.

13—1. STA'CHYS. 42. Labi. ton.

hyssopifolia, Mx. (Ju.) slender, erect, somewhat glabrous: leaves sessile, linear and lance-linear, rarely toothed: whorls about 4-flowered. 12—15 i. S. Mch.

aspera, Mx. (hedge nettle, clown-heal. O. w-p. Ju. ♃.) stem erect, with branches opposite, hispid backwards: leaves sub-petioled, lance-ovate, truncate-serrate, glabrous, with ciliate margins and under veins: whorls 4—12-flowered, but mostly 6: calyx with spreading spines. Var. *tenuifolia*, leaves very thin, slender, lanceolate. 1—2 f. This is an exact description of all my specimens, collected in various situations. Perhaps it should constitue a new species. Mch.

sylvatica, W. (W. p. Au. ♃.) leaves ovate, sub-cordate, acuminate: whorls 6-flowered: stem prickly backwards. 1—2 f. S. N. K. Mch.

velutina, Sz. (W. b.) stem simple, 4-angled, villose, or sub-hispid: leaves lance-ovate, crenate-serrate, close-sessile, clasping, opposite and pointing 4 ways: nerves silky-tomentose on both sides: whorls about 6-flowered: corol sub-pilose. 1 f.

pilosa, N. (r. ♃.) hirsutely pilose: leaves sub-sessile, oblong-ovate, acute, serrate: calyx very pilose; teeth long: whorls somewhat 6-flowered. R.

Exotic.

latifolia, W. (p. Ju. ♃.) whorls many-flowered, spiked: upper lip bifid with acute divisions: leaves broad, cordate, rugose, hairy.

Southern.

hispida, Ph. (y-p. Ju. ♃.) stem and leaves hispid: leaves petioled, ovate, oblong, acute, obtusely serrate: whorls about 4-flowered: calyx glabrous. 2 f. S—C.

tenuifolia, ( ) stem erect, angled, smoothish: leaves petioled, lance-oval, serrate, acuminate: whorls 6-flowered: calyx very pubescent. S—C.

intermedia, A. (W. ♃.) whorls many-flowered: calyx sub-pungent: leaves oblong, sub-cordate, crenate: stem somewhat woolly.

Stachys, HYSSOPUS.

Stachys. Gr. *stachūs*, spike; the flowers of all the species grow in spikes.

13—2. Stan'leya. 63. Cru. asc.

heterophylla, N. (   ) stem erect: lower leaves lyrately pinnate, somewhat pubescent beneath; terminal segment much larger, ovate-lanceolate, somewhat serrate; upper leaves lanceolate, entire: lamina of the petals longer than the claws. Rocky Mts.

viridiflora, N. (Ju. Au.) erect, glabrous: leaves cuneate-obovate, entire; the radical ones with a few runcinate teeth towards the base: petals linear, and, as well as the calyx, herbaceous. Rocky Mts.

Southern.

pinnatifida, N. (W. y. ♃.) glaucous, smooth: leaves somewhat succulent, undulated, interruptedly pinnatifid; divisions sub-lanceolate, remotely toothed: racemes terminal, many-flowered: peduncles long. Mr. Nuttall thinks the Cleome pinnata of Ph. and this plant are the same. 3 f.

integrifolia, J. (W. y.   ) stem simple, angular: leaves entire, ovate, oblong, tapering to both ends: raceme terminal: silique of the length of the pedicel.

5—3. Staphyle'a. 95. Staph, ast—.

trifolia, (bladder nut. W. y-w. M. ♃.) leaves in threes: racemes pendant: petals ciliate below. When in flower, if the germ be cut transversely and examined, it will appear 2 or 3-celled, and will contain the rudiments of 15 or 20 seeds. But when the fruit is ripe, it consists of 2 or three inflated, adnate, sub-membranous carpels each containing 1 to 3 hard small seeds. 6—12 f. S. B. P. C. T. M. F. N. Mch.

17—2. Stark'ea. 55. Heli. ast. sec-sti.

Southern.

spinulosus, Ph. (1) (W. y. Au. ♃.) caulescent: leaves bipinnatifid, gash-toothed; divisions linear, rigidly mucronate: flowers lateral and terminal, crowded: rays 2-toothed: chaff setaceous. 1—2 f.

5—5. Stat'ice. 33. Plum. r. ast. *cyn. diar.*

limonium, L. (2) marsh rosemary, sea lavender. L. b. Au. ♃.) scape terete: panicle much branched: leaves lance-obovate, obtuse, mucronate, glabrous. The root is a valuable astringent. 12—18 i. S. B. C. F.

armeria, (thrift. L. r. ♃.) scape simple, terete, capitate: leaves linear, flat. 1 f. S.

10—3. Stella'ria. 82. Cary. dem. lax—.

media, S. (3) (chick weed. O. w. M. ⊙.) leaves ovate, and heart-ovate, glabrous: stem mostly procumbent, having alternate lines of hairs on opposite sides. Number of stamens variable. 9—15 i.

pubera, Mx. (W. w. M. ♃.) pubescent: stem decumbent: leaves ovate-oblong, sessile, acute, sub-ciliate, somewhat [illegible]: peduncles dichotomous, recurved: petals longer than the calyx. 6—10 i. P. C. M. K.

borealis, Bw. (W. Ju. ♃.) leaves lanceolate, peduncles axillary, elongated, 1-flowered: petals and calyx about equal. R. White Mts.

uliginosa, Sr. (4) (bog starwort. W. w. J. ♃.) stem diffuse, procumbent, much-branched: leaves lanceolate, ciliate, and narrow at the base: peduncles somewhat in pairs, single or many-flowered: petals shorter than the calyx. P. R. W.

humifusa, Sw. (♃.) leaves ovate, sub-rotund, sessile, stem procumbent, 4-cornered: peduncles solitary, short.

Stanleya. In honor of Lord Stanley, a distinguished patron of science.
Staphylea. Gr. *staphula*, a bunch; in which form its fructification is disposed.
Starkea. In honor of the Rev. M. Starke, a Cryptogamist of some note.
Statice. Gr. *statizo*, to [illegible], according to Pliny.
Stellaria. Lat. *stella*, star, from the figure of its flower.

(1) Amellus, Ph. (2) caroliniana, Ph. (3) Alsine media, L. *Holosteum* succulentum. (4) alsine, Hn.

longipes, Goldie. (W.) sub-flaccid, very glabrous, glaucous: leaves linear-subulate, spreading: peduncles terminal, fork-branched: bracts membranaceous: pedicels much elongated: petals broad-obovate, deeply bifid, a little longer than the obtuse obscurely 3-nerved calyx. Woods. Lake Ontario, N. W. Lakes.

laeta, Hk. (W.) stiffly erect, very glaucous: leaves erect, lanceolate, broader at the base, acute, crenate, smooth: peduncles sometimes in pairs, 1-flowered, sometimes in few-flowered terminal panicles: petals two-parted, a little longer than the obscurely 3-nerved calyx. N. W. Lakes. R.

cerastoides, L. ( ) stems cespitose and decumbent, somewhat dichotomous: leaves oblong, pubescent: peduncles in pairs, 1-flowered, deflexed in fruit: petals exceeding the obtuse sepals: capsule oblong, almost twice the length of the calyx. Greenland.

gracilis, Richardson. ( ) glabrous: stem weak: sterile branches gemmiferous: leaves lanceolate somewhat succulent: peduncle solitary, axillary or terminal, elongated, 1 flowered: petals 2-parted, longer than the glabrous acute nerveless sepals. Hudson's Bay.)

nitens, N. (☉.) sub-cespitose, smooth and shining: stems erect, sparsely hairy below, filiform, naked above: leaves lanceolate-subulate, short acute: petals 2-lobed and much shorter than the lanceolate very acute 3-nerved sepals. Oregon.

crispa, Cham. & Schlecht. (♃.) glabrous: stems diffuse, decumbent: leaves veiny, ovate, abruptly acute or acuminate at each end, the margin undulate: flowers axillary, solitary on short peduncles hardly longer than the leaves: petals mostly wanting, or 2-parted and very much shorter than the lanceolate 3-nerved sepals. Oregon.

calycantha, Bongard. ( ) cespitose: stems decumbent, flaccid: leaves ovate-lanceolate, connate, the margin minutely ciliate with white hairs, much shorter than the internodes: cyme dichotomous: peduncles filiform: petals none: sepals ovate-lanceolate, 3-nerved, a little shorter than the obtuse sub-globose capsule. Sitcha.

brachypetala, Bongard. ( ) stem simple, erect: leaves linear-lanceolate, rather thick: petals and capsule half the length of the sepals. Sitcha.

Southern.

prostrata, Bald. (1, (Ap. ☉.) leaves ovate, acute, smooth: petioles very long: stem prostrate, terete, hollow, dichotomous, sub-pubescent: peduncles solitary, long: flowers heptandrous: calyx erect. Flowers small. 1—4 f.

jamesiana, T. & G. (W.) viscid-pubescent: leaves lanceolate, sub-falcate, closely sessile, acute: stem somewhat branched, flaccid: panicles lax, divaricate: petals 2-lobed, about twice the length of the oblong, acute divisions of the calyx.

nuttallii, T. & G. (☉. March. Ap.) minutely granular, branched from the base, erect or ascending: leaves linear, obtuse, rather fleshy: cyme few-flowered: petals ob-cordate, twice the length of the ovate, obtuse, nearly nerveless sepals. 4—6 i. Arkansas. La. Texas.

macropetala, T. & G. (☉.) glabrous, branching from the base: stems erect, slender: leaves linear and very narrow, somewhat fleshy, acute: cyme few-flowered: petals obovate spatulate, 2-lobed, more than twice the length of the ovate lanceolate 3-ribbed sepals. Akansas.

uniflora, Wr. (M.) glabrous, branching from the base: stems erect, very slender: leaves subulate-linear, acute: peduncles axillary, filiform, 1-flowered: petals obcordate, with a shallow sinus, twice the length of the oblong-acutish nearly nerveless sepals. N—C. to Georgia.

Stellaria, MICROPETALON.

17—1. STE'VIA. 55. Eupa. bit. ton.

Southern.

callosa, N. (W. r. S. ☉.) leaves linear, crowded, somewhat succulent, callous at the apex; upper ones alternate: flowers divaricate, sub-corymbed: egret about 8-leaved, erose, short.

Stewartia, STUARTIA.

Stevia. In honor of James Steve, or Esteve, an eminent Spanish botanist.
(1) elongata, N.?

19—15. STILLIN'GIA. 96. Euph. l. esc. dis. eme.

Southern.

salvatica, (y. J. ♃.) herbaceous: leaves sessile, lance-oblong, tapering at the base, serrulate: staminate florets scarcely longer than the bracteal scale. 2—3 f. S—C.
sebifera, (1) Ju. ♄.) leaves petioled, rhomboid, acuminate, entire, with a gland below the base on the petiole: staminate florets pedicelled. Introduced. 20—40 f.
ligus'trina, Mx. (J.) fruticose: leaves lanceolate, tapering to each end, very entire petioled: staminate florets short-pedicelled. 6—12 f.

3—2. STIP'A. 10. Gram. far. fod.

avenacea, (2) (feather grass. J. ♃.) leaves striate, glabrous: panicle spreading, subunilateral: branches whorled with branchlets: glumes acute, membranaceous, equalling the glabrous fruit; awn naked, twisting. Var. *bicolor*, (3) fruit obovate, bearded at the base. P. Y. B. O. Florida. Mch.
juncea, Ph. (W. Au. ♃.) leaves convolute-filiform: panicle lax: glumes somewhat awned, longer than the fruit, awn long, scarcely pubescent. D. Mch.
canadensis, Lk. (4) ( ) leaves setaceous: panicle small: glumes glabrous, obtuse-ovate, equalling the pubescent fruit: awn thick, short. N.

Southern.

expansa, Lk. ( ) leaves striate, glabrous, somewhat glaucous: spikes alternate, panicled, spreading: flowers sessile, remote: glumes longer than the paleas: awn short, naked.
stricta, Lk. ( ) panicle long, narrow: peduncles jointed, very straight: awns naked, somewhat flexuous. Has the aspect of an Andropogon. Lk.
parviflora, Dc. (W. ♃.) leaves radical, sub-rigid, filiform: panicle appressed and diffuse, many-flowered: awns becoming capillary towards the extremity. 1—2 f.

Stipa, TRICHOCHLOA, ERIOCOMA.

3—1. STI'PULICI'DA. 30. Ille. ast.

Southern.

setacea, Mx. (5) (w. M. ☼?) stem erect, smooth, 2—3-chotomous: lower leaves small, opposite, spatulate; branch-leaves none: stipules (2 at each fork,) fimbriate. 6—10 i. C.

17—1. STOKE'SIA. 55. Inul. f. h. ton. dia. feb.

Southern.

cyanca, Hr. (b. ♃.) stem leafy: leaves lanceolate: peduncles axillary, 1-flowered.

14—2. STREPTAN'THUS. 63. Cruc. asc. edi.

sagittatus, N. (r. ☼.) leaves sagittate, acute, clasping, very entire; petals oblong-oval, immaculate. R.
ovalifolius, Hk. (Arkansas cabbage.) I have received no description of this species other than what is implied by the name—leaves oval. Grows in Arkansas.
angustifolius, N. (♂. r.) radical leaves lanceolate-linear, sparingly hirsute; cauline oblong-lanceolate, sagittate and clasping, smooth, erect: petals oblong-oval, the limb exserted. Rocky Mts.

Stillingia. In honor of Mr. Benjamin Stillingfleet, a man of some distinction, and a collector of plants.
Stipa. Gr. *stupē*, a feathery substance; a beautifully feathered beard is peculiar to S. *pendata*.
Stipulicida. Lat. *stipula*, the stipule, and *cædo*, to cut, the stipule being divided into many segments.
Stokesia. In honor of John Stokes, eminent in botany and organic relics.
Streptanthus. Gr. *streptos*, twisted, and *anthos*, flower.

(1) Croton, L. (2) virginica, P. (3) barbata, Mx. (4) juncea, Mx.
(5) Polycarpon stipulifidum, Ph.

cordatus, N. (g-y.) glabrous: lower leaves spatulate-oblong, repandly denticulate; cauline ones cordate, clasping, all obtuse: flowers on short pedicels: siliques deflexed. Rocky Mts.

virgatus, N. ( ) radical leaves more or less villous with stellate hairs, lanceolate-linear; cauline ones oblong-linear, sagittate, clasping: petals exserted, linear-oblong: calyx pubescent. Rocky Mts.

Southern.

maculatus, N. (W. p. M. ☉.) glaucous: stem erect, terete: leaves clasping, heart-ovate, acute, entire: raceme terminal, corymbed. 1—2 f.

obtusifolius, H. (r. p. ☉.) leaves elliptical, obtuse, deeply 2-lobed and clasping at the base: petals broadly obovate: siliques broadly linear. Arkansas.

hyacinthoides, H. (J. ☉. b-p.) glabrous: leaves oblong-linear, acuminate: petals spathulate-linear, longer than the filaments. Texas, Arkansas.

arcuatus, N. (r-p.) hirsutely villous with branching hairs: leaves lanceolate-linear, remotely serrulate; cauline ones sagittate and clasping, very acute: siliques flat and curved downward: petals obovate, exserted. California.

glandulosus, H. (♂. p.) hirsute below: leaves linear-oblong, repandly toothed, the teeth glandular: radical ones petiolate, cauline deeply sagittate and clasping: flowers erect, spreading, secund: siliques very narrow, somewhat spreading, curved; valves reticulated: petals linear-lanceolate, undulate. California.

flavescens, H. (☉. y.) hirsute with simple hairs: leaves linear-oblong, the lowest ones sinuate-pinnatifid, or obtusely dentate with glandular teeth; upper ones entire: flowers erect; petals linear, acute: siliques erect, hirsute. California.

repandus, N. (w.) hirsute, particularly the lower part: leaves oblong-lanceolate, elongated, clasping: angularly toothed or repand above: petals about as long as the calyx. California.

heterophyllus, N. (p-w.) hirsute below with simple hairs: leaves laciniate-pinnatifid; cauline ones sagittate at the base and clasping: flowers pendulous; sepals long-connivent: petals linear: siliques very long and narrow, pendulous. California.

6—1. STREPTO'PUS. (1) 12. Smil. dia. nar.

roseus, Mx. (rose bell wort. r-w. M. ♃.) glabrous, shining: leaves clasping, serrate-ciliate: anthers short, 2-horned. Woods. 12—18 i. S. C. B. H. D. Mch.

distortus, Mx. (2) (y. M. ♃.) glabrous: leaves clasping: pedicels solitary, twisted-geniculate in the middle. Woods. 2 f. P. N.

lanuginosus, Mx. (W. A. g-y. J. ♃.) whitish-woolly: leaves sessile, sub-cordate at the base, acuminate: pedicels in pairs on a short stipe. Flowers large. Berries red. S. Near Rochester. Stevenson. P.

Strophostyles, PHASEOLUS.

21—1. STRUTHIOP'TERIS. 5. Fili. sec-stim.

pennsylvanica, W. (3) (ostrich fern. ♃.) barren frond bipinnatifid; divisions entire, obtuse; lower ones elongated, acute. O. D.

15—12. STUART'IA. 70. Tern. stom. ton.

Southern.

virginica, Mx. (4) (w. M. ♄.) leaves ovate, acuminate: flowers axillary, generally in pairs: calyx ovate, obtuse: petals entire: styles united. 6—12 f. Florida.

pentagyna, L. Her. (M. Ju. y-w.) leaves oval or ovate, acuminate, entire or mucronately serrulate, somewhat pubescent beneath: sepals lanceolate: styles distinct; capsule 5-angled. N—C. to Georgia.

Stuartia, MALACHODENDRON.

Streptopus. Gr. *streptos*, twisted, and *pous*, foot, because of a peculiar twist of each flower stalk.

Struthiopteris. Gr. *strouthos*, an ostrich, and *pterux*, a feather; from the resemblance of its frond to the ostrich feather.

Stuartia. In honor of John Stuart, Earl of Bute, a distinguished naturalist.

(1) Uvularia, L. (2) Uvularia amplexifolia, W. (3) Onoclea nodulosa, Sh. (4) Malachodendron, L.

Stylandra, Convallaria.

Stylophorum, Meconopsis.

16—10. Stylosan'thes. 93. Legu. f. nut. asc.

elatior, (1) (pencil flower. W. y. Au. ♃.) stem pubescent on one side: leaves lanceolate, glabrous: bracts lanceolate, ciliate: heads 2 or 3-flowered. Var. *procumbens*, stem procumbent. 9—15 i. *S.* P. M. S—C.

11—12. Sty'lypus. 92. Rosa. ton.

verna, (y. J. ♃.) sparingly pubescent; stem procumbent at the base, branching above: radical leaves interruptedly pinnate; cauline ones pinnate and pinnatifid; leaflets gash-toothed: stipules large, roundish, gash-toothed. Petals longer than the calyx: awns naked: flowers small. M. K.

5—1. Styphonia. 94. Anac. f. & h. poi. sti.

integrifolia, N. (r.) leaves oval, very obtuse at both ends, entire, on short petioles. California.

serrata, N. ( ) leaves oval or ovate, on very short petioles, sharply repand-serrate. California.

15—12. Sty'rax. 71. Styr. aro. acrid—. car.

Southern.

grandifolium, (2) (w. Ap. ♄.) leaves broad-obovate, acuminate, tomentose beneath: racemes simple, axillary, leafy near the base. 4—12 i.

pulverulentum, Mx. (w. Ap. ♄.) leaves oval, acute, tomentose beneath: racemes lateral, few-flowered, leafy. 18 i.

lae're, Wr. (3) (w. Ap. ♄.) leaves lanceolate, acuminate at each end, serrate, glabrous: racemes lateral, leafy: corol tomentose. 4—6 f.

glabrum, (4) (w. Ap. ♄.) leaves lance oval, acute at each end, finely serrulate, membranaceous, glabrous: racemes lateral, leafy. 6—8 f. Florida. S—C.

14—1. Subula'ria. 63. Cruc. r. nut. asc.

aquatica, W. (awl wort. w. Ju. ☉.) stemless: leaves subulate. Wet. 1—2 i.

Southern.

alpi'na, W. (A. ♃.) stem branching: leaves obovate.

4—1. Swer'tia. 46. Gent. r. bit. ton. *asth.*

deflexa, S. (5) (W. g-y. Jn. ♂.) corol bell-form, with a deflected horn: leaves ovate: branches short. In swamps. 18—24 i. D. Canada.

pusilla, Ph. (false gentian. A. b. J. ☉.) corol wheel-form, twice as long as the calyx. stem simple, 1-flowered: leaves oblong. 1 i. White hills.

Southern.

fastigiata, Ph. (W. Jn. ♃.) corol bell-wheel-form, as long as the calyx: flowers fastigiate-clustered, axillary and terminal: pedicels in pairs. leaves spatulate-obovate, nerved: stem branching.

Stylosanthes. Gr. *stulos*, a column, and *anthos*, flower, the corol being supported on a pillar in the calyx.

Stylypus. Gr. *stulos*, column, *upo*, under, on account of its receptacle being columnar.

Styphonia. Stuphos, stuffed; from the dense herbage.

Styrax. Gr. *sturax*, the ancient name for the gum benzoin, which this genus furnishes.

Subularia. Lat. *subula*, an awl, from its awl-shaped leaves.

Swertia. In honor of Emanuel Sweert, gardener to the Emperor Rudolphus II.

(1) hispida, Mx. Trifolium biflorum, L. (2) grandiflorum, Mx. (3) glabrum, Mx. (4) Botan. Mag. No. 921. (5) corniculata, Ph. not L.

10—1. Swiete'nia. 71. Cedr. feb. ton.

Southern.

mahagonii, (mahogony. ♄.) leaves somewhat 4-paired; leafets lance-ovate, unequal at the base, acuminate: racemes axillary, panicled.

3—1. Sye'na. 17. Pont. ton.

Southern.

fluviatilis, (J. ♃?) leaves crowded, subulate: flowers axillary, solitary, long-peduncled: peduncle recurved after flowering. 2—3 i. S—C.

5—1. Sympho'ria. (1) 58 Capr. f. ref. exp.

racemosa, Mx. (2) (peter's wort. W. r. Au. ♄.) raceme terminal: corol bearded within. 2—3 f. S. O. D. Rochester.
glomerata, Ph. (3) (W. g-r. Au. ♄.) racemes axillary, capitate, conglomerate. 3—4 f. S—C.

5—1. Symphoricar'pus. 58. Capr. r. cats. cath-h. lax.

racemosa, Mx. (4) ( ) flowers in sub-terminal, lax, interrupted, often leafy, racemes: corol densely bearded within: style and stamens included. Canada. R. A.
occidentalis, Rich. ( ) spikes dense, terminal and axillary, nodding: corol and divisions densely bearded within: style and stamens sub-exsert. R. A.

5—1. Sym'phytum. 43. Bora. r. dem. muc.

Exotic.

officinale, (comfrey. y-w. J. ♃.) leaves ovate-sub-lanceolate, decurrent, rugose. Naturalized. 2—4 f.

Symphocarpus, Ictodes.

Symplocos, Hopea.

13—1. Synan'dra. 42. Labi. car. ton. aro.

Southern.

grandiflora, N. (W. y-w. J. ♃.) stem irregularly sulcate: leaves sub-hirsute above, heart-ovate, acuminate, obtusely dentate: lower ones sub-petioled; upper ones sessile, clasping: flowers solitary, sessile. 1 f. K.

2—1. Syrin'ga. 34. Olea. bit. ast.

Exotic.

vulgaris, (lilac. b-p. w. M. ♄.) leaves cordate: flowers in a thyrse.
persica, (persian lilac. b. M. ♄.) leaves lanceolate, entire or pinnatifid.
chinensis, (chinese lilac. b. M. ♄.) leaves lanceolate: branches stiff, mottled.

Swietenia. In honor of the celebrated Austrian, Van Swieten.
Syena. In honor of Arnold Syen, superintendent of the garden at Leyden.
Symphoria. Gr. *sumphoreō*, to cluster together; alluding to the inflorescence.
Symphoricarpus. Gr. *sumphoro*, to cluster or unite, *karpos*, fruit; on account of the germs being adnate.
Symphytum. Gr. *sūmphotūm*, of *sun*, and *phuō*, to grow together, having been famous for its healing wounds.
Synandra. Gr. *sun*, together, and *aner*, stamens; in allusion to the adherance of the two long stamens.
Syringa. Gr. *suriax*, a pipe, because pipes were made of its branches.

(1) Lonicera. (2) Symphoricarpus, Mx. (3) vulgaris, Mx. (4) Xylosteum ciliatum, Var. album, Ph.

T.

17—2. Tage'tes. 55. Inul. aro. sto.

Exotic.

erecta, (african marygold. y. Ju. ☉.) leaves pinnate; leafets lanceolate, ciliate-serrate: peduncles 1-flowered, incrassate, sub-inflated: involucre angled.

patula, (french marygold. y. Ju. ☉.) leaves pinnate; leafets lanceolate, ciliate-serrate: peduncles 1-flowered, sub-incrassate: involucre smooth: stem spreading.

11—1. Tali'num. 86. Port. muc. nut. lax. res.

teretifolium,* Ph. (taliny. W. p. Ju. ♃.) leaves cylindric, fleshy, subulate: peduncles elongated, naked, cymose, 4—10 i. Darlington says the seed is not arilled, according to the generic descriptions of W. &. N. S. P. D.

Southern.

parviflorum, N. ( ) small: leaves slender: stamens 5—10. Arkansas.

17—2. Tanace'tum. 55. Anth. h. bit-odo. ton—cor. *ast*

huronensis, N. (W. y. ♃.) leaves pseudo-bipinnate, gash-serrate, sub-tomentose beneath: pedicels thickened: ray-florets irregular, 4—5-cleft. Flowers large, corymbed. D. Mch.

pauciflorum, Rich. ( ) stem simple, longer than the leaves, somewhat 1-flowered: leaves bi-pinnate, villose, sessile: florets all perfect. A.

Exotic.

vulgare, (tansey. W. y. Ju. ♃.) leaves doubly pinnate, gash-serrate. Naturalized. Var. *crispum*, (double tansey,) leaves crisped and dense.

20—15. Taxus. 100. Coni. b. h. & f. abs. sed. ren.

canadensis, W. (1) (dwarf yew, shin-wood. O. Ap. ♄.) leaves linear, 2-ranked, margin revolute: receptacles of the staminate flowers globose. Appears like a small spreading hemlock bush. 2—6 f. Mch.

baccata, W. (W. ♄.) leaves linear, 2-ranked, flat: receptacles of the staminate flowers globose.

10—2. Tellima. 84. Saxi. ton—.

grandiflora, Doug. (W. w. ♃.) leaves cordate, lobed, dentate-serrate: racemes elongated: petals oblong-linear, laciniate-pinnatifid: styles 2. A. R.

parviflora, H. ( ) hirsute-scabrous: leaves ternate: leafets gash-pinnatifid: raceme short, petals unguiculate, trifid: styles 3. 1 f. R. North California.

Tellima, Mitella.

16—10. Tephro'sia. 93. Legu. f. nut. g. asc.

virginiana, (goat's rue. O. r. Ju. ♃.) erect, with whitish down: leafets (17—21) lance-oblong, acuminate: raceme terminal, short, sub-sessile: legumes falcate, villose: calyx woolly. 1 f. S. Mch.

Tagetes. Said to be named from Tages, a Tuscan divinity, grandson of Jupiter.
Talinum. Gr. *thallo*, to be green, from the verdant habit of the genus.
Tanacetum. Corrupted from *Athanasia*, the ancient name for tansey, of *a*, without, and *thanatos*, death, from the durability of its flowers.
Taxus. Lat. *taxus*, the ancient name for the yew tree.
Tephrosia. Gr. *tephros*, ash colored, from the color of the foliage.

(1) bactata minor, Mx.

* This most elegant little annual is remarkably tenaceous of life. I received the dry root in a letter from Mr. D. Townsend, collected in Dr. Darlington's locality in Pennsylvania, which I set in a box of earth in the spring of 1827, and it produced numerous flowers that season. The next summer a sufficient number of plants were produced by self-sown seeds, to supply numerous specimens for students.

Southern.

chrysophylla, Ph. (1) (M.) prostrate, pubescent: leaves pinnate, in fives, sub-sessile; leafets cuneate, obovate, very obtuse, glabrous above, silky beneath: peduncles opposite the leaves, long, about 3-flowered: legumes nearly straight.

hispidula, Mx. (2) (r. M. ♃.) stem erect, slender, pubescent, dichotomous: leaves pinnate; leafets (11—15) oval, sub-retuse, mucronate, hairy beneath: racemes as long as the leaves, few-flowered: legumes mucronate, slightly hispid. 2 f.

paucifolia, N. (3) (r. M. ♃.) stem decumbent, very villose: leaves distant, pinnate; leafets oval, wedge-form at the base, villose beneath: peduncles much longer than the leaves, few-flowered. S—C.

onobrychoides, N. (r.) erect, ferruginous-pilose: leaves sub-sessile; leafets numerous, (16—24) cuneate-oblong, obtuse, mucronulate: racemes very long, terminal, many-flowered: teeth of the calyx unequal, short. Arkansas.

elegans, N. (r-p. ♃.) decumbent, sparingly pubescent: leaves sub-sessile; leafets (15—17) oblong-elliptic, acutish: peduncles filiform, few-flowered, longer than the leaves: divisions of the calyx acuminate. Alabama.

17—2. Tet′ragonothe′ca. 55. Heli. s. sto.

Southern.

helianthoides, W. (y. J. ♃.) scabrous: leaves opposite, sessile, lance-spatulate, toothed, pilose, glandular-punctate: involucre 4-angled. 2—3 f. Florida.

13—1. Teu′crium. 42. Labi. fra. sto. car. ton.

canadense, (wood-sage, germander. O. r. Ju. ♃.) pubescent: leaves lanceolate, serrate, petioled: stem erect: spikes whorled, crowded: bracts longer than the calyx. Var. *virginicum*, upper leaves sub-sessile: bracts about the length of the calyx. 1—3 f. S. Mch.

laciniatum, T. (W.) somewhat fruticose: leaves pinnately 5-parted: upper ones 3-parted: divisions linear: flowers axillary, solitary, pedicelled: pedicels much shorter than the leaves.

1—1. Tha′lia. 21. Orch. aro.

Southern.

dealbarta, Roscoe. (p. Au. ♃.) panicle white-pulverulent: spathe 2-flowered: leaves ovate, revolute at the summit.

12—12. Thalic′trum. 61. Ranu. acr. poi—.

dioicum, (4) (meadow rue. O. w-r. M. ♃.) very glabrous, dioecious or polygamous: filaments filiform; anthers linear, elongated, mucronate: leaves on short petioles, ternately decompound; leafets rounded, crenately and obtusely lobed, glaucous beneath: peduncles as long as the leaves: carpels oblong, sessile, strongly ribbed, twice the length of the slender curved style. T. *purpurascens*, of 7th edition is a synonym. Mch.

cornuti, (W. g y. Jn. ♃.) dioecious or polygamous: filaments sub-clavate; anthers oblong, obtuse: leaves sessile, ternately decompound; leafets roundish-obovate or elliptical, 3-lobed, with the lobes rather acute, glaucous or pubescent beneath: peduncles longer than the leaves: carpels sub-sessile, ribbed, twice as long as the style: stigma linear. Mch. T. revolutum, carolinianum, rugosum, corynellum, of 7th edition, are synonyms for this species.

anemonoides, Mx. (rue anemone. O. w. M. ♃.) umbels involucred: radical leaves twice ternate; leafets sub-cordate, 3-toothed: involucre 6-leaved; leafets petioled,

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Tetragonotheca. Gr. *tetragon*, quadrangular, and *theka*, case, in allusion to the four angles of the grains.

Teucrium. Said to be named after Teucer, the founder Troy.

Thalia. In honor of John Thalius, a German botanist.

Thalictrum. Gr. *thallō*, to be green, alluding to its verdant habit.

(1) prostrata, N. (2) gracile, N. (3) villosa, Mx. spicata, Wr. (4) laevigatum, Mx.

uniform: umbel few-flowered: carpels striate: root tuberous. 6—10 i. *S.* Mch. *Anemone* thalictroides, 7th edition.

filipes, T. & G. ( ) polygamous? carpels semi-obovate, compressed, striate, each on a slender stipe, nearly its own length, acute: style none: leaves biternate, petiolate: leafets roundish, obtusely 3 to 5-lobed, glaucous beneath. N—C.

alpinum, L. ( ) flowers perfect, in a simple raceme, nodding: filaments filiform; anthers oblong-linear: stem simple, nearly naked: leaves biternate; leafets glabrous: stigma linear: carpels ovate, sessile. Canada to Greenland.

Southern.

claratum, (♃.) monoecious: filaments club-form: pericarp compressed, scarcely beaked, with a very short style: leaves glabrous, without stipes.

5—2. Thas'pium. 60. Umbe. poi—. sto—.

actaeifolium, Dc. (Ju. ♃.) leaves gash-biternate: segments oval, equally dentate: umbels sub-verticillate; lateral ones sterile. 3 f. Canada. Banks of St. Lawrence river. Virginia. K.

barbinode, Dc. (W. y. ♃.) lower leaves somewhat gash-3-ternate; upper ones gash-biternate, segments cuneate-ovate, acute, unequally gash-serrate, entire at the base. 3 f. P. Banks of Schuylkill. Mch.

atropurpureum, Dc. (p. J. ♃.) radical leaves petioled, cordate undivided: cauline ones gash-pinnate: segments 3 to 7, short-petioled, ovate oblong, all cartilaginous-dentate. 2—3 f. *S.* C. H. M. P.

Thaspium, Cnidium, Sison, Thapsia.

12—1. The'a. 70. Tern. ton—. nar. bev.

Exotic.

bohea, (bohea tea. M. ♄.) flowers 6-petalled: leaves oblong-oval, rugose. From China and Japan. Flowered the last of September, 1838, in Albert P. Heartt's garden.

viridis, (green tea. ♄.) flowers 9-petalled: leaves very long-oval. J. C. Lettson says this is only a variety of the *bohea*.

10—1. Ther'mia. 93. Legu. f. nut. g. asc.

Southern.

rhombifolia, N. (1) (W. y. ♃.) leafets rhombo-ovate, somewhat wedge-form, silky-pubescent beneath, obtusish: stipule leaf-like, round-ovate, oblique, shorter than the petiole: raceme interrupted.

Thermopsis, Thermia.

5—1. The'sium. 25. Sant. sed. ton.

umbellatum, (2) (false toad flax. O. w-g. J. ♃.) erect: leaves oblong: umbels axillary, (sometimes at a distance above the axil;) 3 to 5-flowered, flowers bracted: peduncles longer than the leaves. 9—15 i. *S.* Mch.

14—1. Thlas'pi. 63. Cruc. asc. dia.

arvense, (penny-cress. W. J. ☉.) silicles sub-orbicular, compressed, smooth: leaves oblong, toothed, glabrous. P. Y. D.

alliaceum, (W. ☉.) silicle sub-ovate, ventricose: leaves oblong, obtuse, toothed, glabrous. Introduced.

Thaspium. From the isle of Thaspia, which gave name to the Thapsia of the ancients, in allusion to its affinity with that genus.

Thea. Gr. *thea*, originating in the Chinese Tcha or Tsja, their name for tea.

Thermia. Gr. *thermos*, a lupine, to which its flowers bear resemblance.

Thesium. Gr. *thescion*, because it formed part of the garland presented by Theseus to Ariadne.

Thlaspi. Gr. *thlaō*, to break or press, because its seeds appear as if bruised or pressed.

(1) Cytissus, Ph. (2) Comandra, N. Hamiltonia, S.

tuberosum. (r. M.) silicle sub-orbicular, short, compressed: leaves rhomb-ovate, obsoletely toothed, smooth, sessile: radical ones long-petioled: stem pubescent, very short and simple: root tuberous and fibrous. 4—5 i. P.

alpestre, Dc. ( ) leaves entire or obscurely toothed: radical ones ovate, petioled; cauline ones oblong, clasping: petals about equalling the calyx: silicle obcordate, 8 to 12 seeds: style filiform. Canada.

montanum, Dc. ( ) leaves somewhat fleshy, entire: radical ones obovate, petioled: cauline ones oblong, sagittate-clasping: petals larger than the calyx: silicles obcordate, 4-seeded: style filiform. A. Canada.

cochleariforme, Dc. ( ) leaves somewhat fleshy; radical ones petioled, ovate, subdentate: cauline ones cordate-clasping: petals larger than the calyx: silicles oblong, sub-emarginate, 8-seeded: style short, filiform. R.

Thlaspi, Lepidium.

19—15. Thu'ja. 100. Coni. b. h. ton. exp. *con.*

occidentalis, (arbor vitæ, false white cedar. M. ♄.) branchlets 2-edged: leaves imbricated 4-ways, rhomb-ovate, close pressed, naked, tubercled: strobiles obovate; inner scales truncate, gibbous below the apex. Vast quantities along the Erie canal from Rome to Montezuma. V. T. Peekskill. Mch. S—C.

gigantea, N. ( ) strobiles lax; scales oboval, retuse: leaves imbricate 4-ways, ovate, obtusish, closely incumbent, sub-equal. 200 feet high and 12 feet diameter. R.

13—1. Thy'mus. 42. Labi. aro. sto. con.

Exotic.

serpyllus, (mother of thyme. b-p. J. ♄.) flowers in heads: stem creeping: leaves flat, obtuse, ciliate at the base. Naturalized.

vulgaris, (thyme. b-p. J. ♄.) erect, procumbent at the base: leaves ovate and linear, revolute, flowers in a whorled spike.

lanuginosus, (lemon thyme. J. ♄.) flowers in heads: stem creeping, hirsute: leaves obtuse, villose.

Thyrsanthus, Wistaria.

Tiedmannia, Oenanthe.

14—1. Thy'sanocar'pus. 63. Cruc. asc.

curvipes, Hk. (W.) flowers racemed, small: silicle pendulous: stem solitary, erect: leaves mostly radical, pinnatifid. West of Rocky Mts.

oblongifolius, N. ( ) petals about twice as long as the calyx: silicles nearly orbicular, wingless, hispid with uncinate hairs: leaves oblong, toothed, and densely and stellately hirsute. Oregon.

Southern.

pusillus, H. (Ap.) flowers apetalous: silicles nearly orbicular, wingless, hispid with uncinate hairs: leaves oblong, toothed, and stellately hirsute. California.

elegans, Fisch. and Meyer. ( ) petals nearly twice as long as the calyx: silicles orbicular-ovate, membranaceously winged; the wing perforated with holes, emarginate at the apex. 12—18 i. California.

pulchellus, Fisch. and Meyer. (w.) petals longer than the calyx: silicles glabrous; the wing not perforated, truncated at the apex: style much exserted. California.

crenatus, N. (March. Ap.) petals about as long as the calyx: silicles orbicular-obovate, crenate, glabrous, slightly emarginate, membranaceously winged; the wing perforated: style not exserted: leaves linear-lanceolate, runcinately and remotely denticulate. California.

Thuja. Gr. *thuion*, a kind of cedar used for making images in Greece; or *thya*, from *thyō*, to sacrifice, because its wood was used as a perfume in sacrifices.

Thymus. Gr. *thumos*, courage, in allusion to its cordial qualities.

Thysanocarpus. Gr. *thusanos*, fringe, and *karpos*, fruit; the pods being edged with fringes.

lacinatus, N. ( ) petals as long as the calyx: silicles elliptical, glabrous, winged; the wing entire or crenate, not perforated, entire at the apex, and acuminate with the conspicuous style: leaves linear, remotely and incisely toothed. California.

10—2. TIAREL'LA. 84. ·Saxi. ast+.

cordifolia, (mitre-wort, gem-fruit. w. M. ♃.) leaves cordate, acute-lobed, toothed: teeth mucronate: scape racemed. Resembles the *Mitella diphylla*. 10 i. C. T. O. N. V. Mch.

menziesii, Ph. (W. ♃.) leaves ovate, cordate, acute, short-lobed, toothed; cauline ones alternate, distant: raceme filiform, somewhat spiked: calyx tubular. 1 f.

trifoliata, W. (W. ♃.) leaves ternate: leafets sub-rhomboid, serrate, pilose: racemes terminal: little corymbs of flowers alternate: calyx bell-form.

bracteata, T. & G. (W. ♃.) leaves round-cordate, gash-serrate: serratures mucronate: scape racemed: flowers pentandrous, bracted: petals very narrow: stamens not exsert. This species differs from *Tiarella* in its pentandrous, bracted flowers; and from *Heuchera* in its distinct styles and habit. It should perhaps form a distinct genus. Torrey.

unifoliata, Hk. ( ) sub-glabrous: stem one leaved: leaves all petioled, triangular-cordate, obtusely toothed; teeth short-mucronate: panicle lax: flowers nodding: calyx campanulate: petals abortive (?) 1 f. R.

laciniata, Hk. ( ) rough, hirsute: stem sub-trifoliate: leaves trifoliate; middle leafet trifid: lateral ones bifid: all broad-lanceolate, lacinate-pinnatifid: panicle lax; flowers nodding: calyx short-campanulate: petals 0? 9—12 i. N. W. Coast.

Southern.

biternata, Vent. (A. y-w. J. ♃.) leaves biternate: leafets heart-ovate, oblique, gash-lobed, toothed: stem leafy: panicle terminal, divaricate, with the flowers somewhat spiked. There is some obscurity about this plant; it cannot belong to this genus. Elliott. Resembles *Spiraca aruncus*, Ph.

15—3. TIGRI'DIA. 18. Irid. acr—. cath—.

Exotic.

pavonia, (tiger flower. r-y. M. to S. ♃.) root bulbous: stem simple, wavy: leaves ensiform, nerved: petals flat, spotted; inner ones small, guitar-form. Var. *leona*, one-colored.

12—1. TIL'IA. 79. Fili. b. ast. muc. cata. diu. *con.*

glabra, V. (1) bass-wood, lime-tree. O. y-w. Ju. ♄.) leaves round-cordate, abruptly acuminate, sharply serrate, sub-coriaceous, glabrous: petals truncate at the apex, crenate: style about equalling the petals: nut ovate. Large tree: wood soft and white. Leaves often truncate at the base. S. Mch.

pubescens, V. (2) crop-ear bass-wood. y-w. Ju. ♄.) leaves truncate at the base, (one lobe cropped,) oblique, acuminate, tooth-serrate, pubescent beneath: panicle dense-flowered: petals emarginate, about equal to the style: nut globose, smooth. Var. *leptophylla*, leaves lax, serrate, very thin, somewhat papyraceous. S. P. D. C. O. N.

alba, Mx. ( ) leaves glabrous above, whitish-pubescent beneath; the veins pale; serratures mucronately acuminate: petals emarginate: staminodia-spatulate, entire: style nearly glabrous at the base. Pennsylvania to Maryland and Western States.

Southern.

heterophylla, Vent. (W. J. ♄.) leaves ovate, oblique at the base or equally truncate and cordate, sharply serrate, white tomentose beneath: nut globose, somewhat ribbed.

Tiarella. A diminutive of *tiaras*, an ancient ornament for the head, in allusion to the shape of the seed vessels.

Tilia. Lat. *tilia*, the linden, perhaps of Gr. *ptèlea*, the elm tree.

Tigridia. From the tiger-like spots on some of the flowers.

(1) americana, W. canadensis, Mx. (2) americana, Wr.

4—4. Tillæ'a. 86. Port. muc.

ascendens, Ea. (pigmy-weed. w.) stem ascending, rooting at the lower joints: leaves connate, subulate, fleshy: flowers axillary, solitary, sessile. Very minute. A new species; discovered on the Housatonic by Prof. Ives, in the summer of 1816. C. Peekskill.

6—1. Tilland'sia. 15. Brom. sug. aro. edi. ref.

Southern.

utriculata, (wild pine. w.) leaves somewhat glaucous and pruinose, concave, broad, subulate, setaceous at the apex, [illegible] curved and very dilated at the base: panicle branching; flowers sessile: bracts somewhat 2-ranked, shorter than the calyx: petals twice as long as the calyx, erect, equal below, distinct at the apex, often gaping on the side: stamens longer than the corol. Leaves pale green, retaining water in their dilated bases. 3 f.

juncea, Le Conte. (b.) stem leafy: leaves longer than the stem, gradually shorter towards the top, somewhat pruinose, channelled, subulate-setaceous, rigid, recurved at the apex, dilated at the base: spikes compound, many-flowered, distichous; bracts imbricate, longer than the calyx: petals equitant, thereby forming a tube, dilated in the middle, thrice as long as the bracts, margin and apex recurved: stamens longer than the corol: stigma round capitate, hispid. Leaves pale-green: stem reddish: bracts red: stamens blue; anthers yellow. 1 f.

prinifolia, Le Conte. (b.) stem leafy: leaves equalling the stem, gradually shorter towards the top, at length scale-like, sub-pubescent, not pruinose, subulate-setaceous, semi-terete, erect, concave at the base: spikes simple, few-flowered: bracts short, imbricate: petals equitant, thereby forming a tube, longer than the bracts: dilated in the middle, recurved at the apex and margin: stamens longer than the corol. Leaves pale green: stem and bracts red: stamens blue: anthers yellow. 5 i.

bartra'mi, E. (b.) stem leafy: leaves longer than the stem, gradually shorter towards the top, hoary-pubescent, subulate-setaceous, semi-terete, erect, concave and dilated at the base: spikes mostly simple, 6—8-flowered, 2-ranked, bracts imbricate: petals equitant, thereby forming a tube, dilated in the middle, longer than the bracts, recurved at the apex and margin. Leaves greenish: stem and bracts red: stamens blue; anthers yellow. 10 i.

caespitosa, Le Conte. (b.) stem scaly by the diminution of the leaves: leaves longer than the stem, hoary-pubescent, subulate-setaceous, semi-terete, erect, somewhat concave at the base: spikes 3—4-flowered: bracts imbricate: petals equitant, thereby forming a tube, dilated in the middle, longer than the bracts, recurved at the apex and margin. Leaves reddish green: stem and bracts red: stamens blue; anthers yellow. 4 i.

recurvata, ( ) leaves shorter than the stem, terete, curved, subulate-setaceous, pruinose, whitish pubescent, with narrow grooves, 2-ranked: stem naked above, 1—2-flowered: flowers sessile: corol longer than the calyx. 6 i.

usneoides, (g.) gray, sub-pruinose, whitish pubescent: stem diffuse, filiform, pendulous, branching, dichotomous, flexuous, or even spirally twisted: leaves subulate-filiform, semi-terete, twisted: flowers terminal, solitary, sessile: calyx glabrous, rusty, 3-parted: divisions subulate, very acute, erect: petals 3, broad-linear, rounded at the apex, equitant below, thereby forming a tube equal to the calyx; lamina spreading, flat: stamens shorter than the tube. La. S—C.

18—1. Tipularia. 21. Orch. r. amy. vis. aro—.

discolor, N. (1) (w. Au.) leaf solitary, plaited and longitudinally nerved: flowers racemed, nodding, bractless. Resembles the Corallorhiza. Y.

Tillæa. In honor of Tilli, and Italian botanist.

Tillandsia. In honor of Tillands, a Swedish botanist of Abo.

Tipularia. So called from a fancied resemblance in the flower to insects of the genus *tipula*, or crane fly.

(1) Limodorum unifolium, M. Orchis discolor, Ph.

6—3. TOFIELD'IA. 13. Mela. poi—. asc—.

pubens, Mx. (1) (g-w. Au. ♃.) scape scabrous: spike oblong, interrupted: capsules sub-globose, scarcely longer than the calyx. 12—18 i. *S.* D. S—C.
glutinosa, Mx. (W. ♃.) scape and pedicels glutinous-scabrous: spike with a few alternate fascicles: capsule egg-form, twice as long as the calyx. Canada. Mch.
pusilla, Mx. (scotch asphodel. g-w. J. ♃.) glabrous: leaves short: scape filiform: spike few-flowered, globular: little calyxes adnate to the rachis: capsule globose. Mountain swamps. Canada.

Southern.

glabra, N. (g-w.) scape terete, smooth: leaves linear, ensiform: spike short, dense, oblong: bracts acute, very small: pedicels solitary, angular, as long as the flowers: styles 0: capsules distinct, membranaceous, equalling the corol. 8—10 i.
glaberrima, Macbride. (w. Ge. ♃.) very glabrous: flowers racemed: buds approximate, nearly whorled, 1-flowered. 2—3 f. S—C.

Tolmia, PYROLA.

20—15. TORREYA. 100. Coni. h & b. abs. ner. w & b. pun-odo.

Southern.

taxifolia, Arnot. (Florida yew-tree. ♄.) branches spreading: branchlets 2-ranked forked: leaves 2-ranked, linear, keeled, rigid, mucronate. 20—40 f.

My specimen consists of a transverse segment, 6½ inches diameter. The wood resembles spruce spars. It must be of slow growth; as the most thrifty growth presents from fifteen to twenty concentric rings to the inch. Leaves one inch long, one tenth of an inch wide. Fruit an inch and 3 tenths long, and 9 tenths in diameter. Outside coat (primine) very rugose, brittle; shell (secundine) thin: leaving the seed large. Aspalaga River, Florida.

11—1. TOUTE'REA. (2) 88. Turn. emo.

ornata, N. (W. y-w. A. ♃.) leaves lanceolate, interruptedly pinnatifid: segments sub-acute: base of the capsule foliose, 5 to 7-valved; seeds almost without margins. 2 to 4 feet high. Flowers very large, solitary and terminal, sessile, odorous. Found on the banks of the Missouri.
nuda, N. (W. y-w. ♃.) leaves sub-lanceolate, interruptedly pinnatifid; segments obtuse: capsule naked, 3-valved; seeds margined: outer stamens petaloid, often sterile. Flowers smaller than the preceding species. Near the Great Bend on the Missouri.

17—2. TOWNSEND'IA. 55. Aste. ast. ton.

sericea, Hk. (   ) florets of the ray involute, narrow, scarcely expanded: leaves radical, numerous, erect spreading, sub-spatulate, entire, ciliate: flowers solitary: involucre ovate, with silky leafets. A. R.

6—1. TRADESCAN'TIA. 13. Comm. ton—.

virginica, (spider-wort. b. p. M. ♃.) erect, branching: leaves lanceolate, elongated, glabrous: flowers sessile; at length the peduncles become elongated; umbel compact, pubescent. Cultivated. 1—2 f. *S.* P. M. Florida. Mch.
rosea, Mx. (r. M. ♃.) erect, simple: leaves lance-linear: peduncles elongated: calyx smooth. 8—12 i. *S.*

Tofieldia. In honor of Mr. Tofield, an English botanist.
Torreya. In honor of Prof. John Torrey of New York—the American Linneus.
Touterea. Gr. *touteron*, another. A temporary name, given from its having been published as Bartonia and Torreya; and been driven from both by other appplications of both names. The word " Another," may stand as a name for this edition.
Townsendia. In honor of David Townsend, Esq. of West Chester, Pa.
Tradescantia. In honor of two Tradescants, father and son, French botanists.

(1) pubescens. Ph. Narthecium, Mx.

(2) See note to p. 63, and write this name in the blank at the * This is the Torreya of 7th ed.

19—3. TRA'GIA. 96. Euph. ton. stim.

ramosa. T. & J. (W.) stem herbaceous, pilose, very branching: leaves petioled, lance-ovate, sharply serrate, hirsute beneath, sub-cordate at the base: racemes axilary, filiform, few-flowered. 8 i.

Southern.

urens, (Ju. ♃.) erect: leaves lanceolate, sessile, obtuse, sub-dentate at the apex: stem and branches pubescent. Var. [illegible], leaves oblong-oval, sometimes wedge-form. Var. *lanceolata*, leaves lanceolate, sub-dentate and entire. Var. *linearis*, (1) leaves linear, nearly all entire. 12—18 i. S—C.
urticifolia, Mx. (Ju. ☉.) leaves cordate, ovate, serrate: stem erect, very hirsute. 12—18 i. S—C.
macrocarpa, W. (W. Ju. ☉.) climbing, hispid: leaves deeply cordate, ovate, acutely toothed. K.

17—1. TRAGOPO'GON. 53. Cich. asc. sal.

Exotic.

porrifolius, (vegetable oyster, goat beard, salsafy. p. Ju. ♂.) involucre longer than the rays of the corol; the corrollets very narrow, truncate; peduncles incrassate. C.

12—12. TRAUTVETTERIA.* 61. Ranu. acr. r. poi—.

palmata. Fisch. & Meyer. (Ju. Au.) leaves slightly coriaceous, with conspicuous reticulated veins: cyme mostly compound. 2—3 f. N—C. K. Tennessee. *Cimicifuga* palmata, and *thalictrum* ranunculinum, 7th edition.
grandis, N. ( ) leaves membranaceous, the veins scarcely prominent: cyme nearly simple. Oregon.

5—2. TRE'POCAR'PUS. 60. Umbe. aro—. stim.

Southern.

aethusae, N. (w.) umbels 5-rayed: fruit four times as long as broad: leaves many-cleft, with linear lobes. Arkansas.
brachycarpus, (W.) umbels 2 and 3-rayed: fruit three times as long as broad. Perhaps a variety of the last. Louisiana.

10—1. TRIB'ULUS. 81. Zygo. ton. ver.

Southern.

maximus, (y. Ju.) leaves pinnate; leafets about 4-pairs, outer ones largest: pericarps 10-seeded, not spiny. 1—2 f.
trijugatus, N. (y. ☉.) leafets in 3 pairs; terminal ones largest, pubescent beneath: capsules 5, 1-seeded, muricate, spineless.

3—2. TRI'CHOCHLO'A. 10. Gram. far. fod.

capillaris, Lk. (2) (W. S. ♃.) leaves convolute-filiform, smooth: panicle diffuse, capillary, very slender: pedicels longer than the awns: awns 3 to 4 times as long as the flower. 2 f. S. N.

3—2. TRICHO'DIUM. 10. Gram. far. ton.

laxiflorum, Mx. (W. M. ♃.) culm erect: leaves setaceous and with the sheaths somewhat scabrous: panicle diffuse, capillary, with trichotomous branches: glumes unequal. 18 i. S. B. C. T. N. Mch.

Tragia. In honor of Hieronymus Tragus, a famous old German herbalist.
Tragopogon. Gr. *tragos*, a goat, and *pogon*, beard, so called from its downy seeds while in the capsule.
Trautvetteria. Gr. *trauta*, tender branch? *udos* rain, *tereo*, to preserve.
Trepocarpus. Gr. *trepo*, to turn, and *karpos*, fruit; from that appearance.
Tribulus. Gr. *tribolos*, name of the thistle, from Gr. *treis bolai*, tree.
Trichochloa. Gr. *thrix (trichos)* hair, and *chloa*, green herbage.
Trichodium. Gr. *thrix (trichos)* hair, on account of its capillary inflorescence.
(1) linearifolia, E.? (2) Stipa, Lk. sericea. Mx. Agrostis sericea, M.
* See generic description in Addenda.

scabrum, M. (1) (Ju. ♃.) culm geniculate at the base, assurgent, branched: leaves lance-linear, flat, striate, scabrous; sheaths generally smooth: panicle whorled and divaricate: glumes unequal: paleas ovate, acute, 3-nerved. 12—18 i. *S.* T. Y. P. W N. Mch.
elatum, Ph. (Au. ♃.) culm erect, firm: leaves narrow linear, flat, scabrous; sheaths smooth: panicle whorled, a little spreading: glumes nearly equal. 3 f. *S.*
montanum, T. (A. Ju. ♃.) culm cespitose, erect: leaves involute-filiform, and with the sheaths scabrous: panicle [illegible] 9—12 i.
perenneum, Wr. (2) (S. ♃.) culm [illegible] somewhat diffuse; branches whorled and trichotomous: flowers racemed. 1—2 f. *S.*

Trichophorum, SCIRPUS.

17—2. TRI'CHOPHYL'LUM. N. (3) 55. Heli. ton. sto.

lanatum, Ph. (W. y. Ju. ♃.) woolly on all parts: leaves linear, pinnatifid above: peduncles elongated, 1-flowered: rays 3 toothed: akenes glabrous, 5-angled.
integrifolium, Hk. ( ) lower leaves obovate-spatulate, upper ones linear-spatulate, entire and very entire or very rarely sub-trifid at the apex, both sides white-woolly. R.
multiflorum, N. (y. Ju. ✵?) many-stemmed, canescent tomentose: leaves opposite; lower ones entire; upper ones trifid or sub-bifid at the apex; branching ones entire, linear: involucre 8-leaved; divisions ovate-oblong, obtuse. 9 i. R.

Southern.

oppositifolium, N. (W. Ju. ♃?) decumbent, branching, short hoary-pubescent: leaves opposite, palmate 3-cleft, segments ligulate, simple or divided: peduncle filiform, mostly dichotomous, scarcely longer than the leaves. 6—12 i.

13—1. TRICHOSTE'MA. 42. Labi. car. ton.

dichotoma, (blue curls. W. b. Au. ☉.) leaves lance-ovate: branches flower-bearing, 2-forked: stamens very long, blue, curved. Var. [illegible], somewhat pubescent: leaves linear. 6—12 i. *S.* T. Y. V. C. N. P. B. H. M. F.

Tricuspis, WINDSORIA.

7—1. TRIENTA'LIS. 35. Prim. sed. sop.

americana, Ph. (4) (chick winter green. O. w. M. ♃.) leaves lanceolate, serrulate, acuminate: petals acuminate. 3—6 i. Mch.

16—10. TRIFO'LIUM. 93. Legu. f. nut. g. asc.

reflexum, (W. r. J. ♃.) procumbent, pubescent: leaves obovate: stipules oblique, cordate: heads many-flowered: flowers pedicelled, at length all reflexed: legumes about 3-seeded. Near the great Lakes. 12—18 i. *S.* P. C. Genesee F. Dew.
repens, (white clover. O. w. M. ♃.) creeping: leafets obovate-oblong, emarginate, serrulate: flowers in umbelled heads: teeth of the calyx sub-equal: legumes 4-seeded. *S.*
pratense, (red clover. O. r. M. ♃.) ascending, smoothish: leafets ovate, sub-entire: stipules awned: spikes dense-ovate: lower tooth of the calyx shorter than the tube of the corol, and longer than the other teeth. 2—3 f. *S.*
arvense, (rabbit foot, field clover. O. w. Ju. ☉.) erect, branching, villose, leaves linear-oblanceolate: spikes villose, oval cylindric: teeth of the calyx setaceous, longer than the corol. Grows in dry pastures or barren fields. 6—10 i. *S.*
agrarium, (5) (y. J. ☉.) erect, sub-pubescent: leafets lance-wedge-form, obtuse,

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Trichophyllum. Gr. *thrix (trichos)* hair, and *phullon*, a leaf, an apt name.
Trichostema. Gr. *thrix (trichos)* hair, and *stēma*, stamen, alluding to the long capillary filaments.
Trientalis. Lat. *triens*, the third of any thing, it being about a third of a foot high.
Trifolium. Lat. *tres*, three, and *folium*, leaf, that being its usual number.

(1) Agrostis scabra, W. (2) decumbens, Mx. Cornucopia, Wr. (3) Actinella, Ph. (4) europaea, Mx. not L. (5) aureum, Pollich.

middle one sessile: stipules lanceolate, acute: spikes oval, imbricate: banner deflexed, permanent: teeth of the calyx subulate, glabrous, unequal. *S.* P. O. T. On the islands. 6—14 i. M.

procumbens, W. (hop clover. yellow clover. W. y. J. ☉.) procumbent: stem hairy: leafets obovate, sub-marginate, glabrous: stipules short, lanceolate, acute: spikes oval, imbricate: banner deflexed, furrowed, permanent. 3—6 i. *S.* B. P. M. C.

campestre, Sr. (1) (y. ☉.) spike ovate, imbricate: banner deflected, permanent: leafets lance-ovate, middle one petioled: stem sub-diffuse: branches decumbent. P.

stoloniferum, M. (buffalo clover. W. w. J. ♃.) stoloniferous, smooth: lower leaves on long petioles; leafets obovate or wedge-form, serrulate, retuse or emarginate at the apex. stipules membranaceous, broad-lanceolate: flowers in globose heads, pedicelled, erect. at length reflexed: segments of the calyx nearly equal, narrow, smooth, longer than the tube. N. Y. Penn. West to Mississippi.

altissimum, Doug. (W.) very glabrous: stem erect, tall: leafets lance-linear, toothleted; petioles very long: upper leafets sub-sessile: stipules lance-acuminate, adnate to both sides of the petiole: little heads oblong: calyx glabrous: teeth 4 above, twisted. R.

spinulosum, Hk. (W.) prostrate. glabrous: leafets oblong, acute at both ends, spinetoothed: stipules ovate acuminate, spine serrate: involucre 1-leaved: little heads sub-globose. short: calyx a little shorter than the corol. N. W. Lakes. R.

cyathiferum, Hk. (W.) prostrate, ramose. glabrous: leafets oblong or obovate-wedgeform, mucronate, spine-toothed: involucre large, 1-leaved, cap-form: little heads hemispheric many-flowered. West of Rocky Mts.

involucratum, W. (☉.) little heads roundish, peduncled: surrounded by an orbicular, toothed receptacle: stipules oblong, awned, toothed: stem erect, branched. R.

nanum, T. (W. p. ♃.) little heads few-flowered, umbelled: legumes 4 to 5-seeded: calyx glabrous. teeth nearly equal: leafets obovate-oblong, acuminate: setm cespitose, erect. 1—2 i.

plumosum, Doug. (♃. w. J. Ju.) silky pubescent: stem erect, tall: leafets linear-lanceolate, acuminate, denticulate, on very long petioles, the uppermost sub-sessile: stipules linear-lanceolate. acuminate, adnate above the middle to the petiole: heads of flowers conical-oblong. pedunculate, ebracteate: calyx very hairy: the teeth linear, straight, silky-plumose, longer than the tube of the corol: ovary 4-ovuled. Oregon.

fimbriatum, Lindl. (p.) prostrate, glabrous: leafets oblong or slightly cuneate, spinulose-denticulate: stipules ovate, acuminate, laciniate-spinulose: involucre laciniately many-cleft, shorter than the sub-globose heads: teeth of the calyx broadly subulate, straight, half the length of the corol. N. W. Coast.

gymnocarpon, N. (M. J. ♃. y-w.) cespitose. minutely pubescent: caudex short and thick: leaves mostly radical; leafets oval-oblong or elliptical, obtuse, serrate, nearly glabrous above: stipules scarious, oval: flowering stems very short, a little leafy at the summit: peduncles about the length of the petioles: heads 5 to 6-flowered; segments of the calyx subulate, as long as the tube: legume hairy, reticulate-rugose, 1 to 2-seeded; the stipe about the length of the calyx tube. 2—3 i. Rocky Mts.

variegatum, N. (♂. p. w.) glabrous, decumbent, branching: leafets obovate-oblong or somewhat obcordate, minutely spinulose-serrate: upper stipules roundish, laciniately dentate with subulate-setaceous teeth: peduncles axillary, longer than the leaves; involucre laciniately many-cleft, shorter than the sub-globose head: teeth of the glabrous calyx equal, lanceolate-subulate, with setaceous points, much longer than the tube, shorter than the corol: legume dehiscent, 1 to 2-seeded. *S.* Oregon.

pauciflorum, N. (Ap. M. ☉. p. w.) glabrous, nearly erect, slender, much branched from the base: lower leafets cuneate-oblong; upper ones lanceolate linear, acuminate, distantly and minutely spinulose serrulate: stipules laciniate, acuminate: involucre many-cleft, much shorter than the small few-flowered head: teeth of the calyx simple, broadly subulate, pungent. scarcely longer than the tube, and shorter than the corol: legume 2-seeded. Oregon.

eriocephalum, N. (♃. M. y-w.) softly pilose or villous: stem erect: leaves all on long petioles; leafets lanceolate or oblong-lanceolate, acutely and minutely serrate: stipules linear-lanceolate, acuminate: heads sub-globose, pedunculate, the flowers at length reflexed: calyx very hairy, divided nearly to the base; the teeth filiform, two-thirds the length of the corol. plumose. Oregon.

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(1) **procumbens, S. agrarium, C.**

medium, L. (♃. p.) almost glabrous: stem nearly erect, flexuous, branching; leafets oblong or elliptical, nearly entire: stipules lanceolate, acuminate: heads of flowers sub-globose, rather loose, solitary, more or less pedunculate, sometimes bracteate: teeth of the calyx setaceous, somewhat hairy; the lower one longest, shorter than the tube of the corol. Mass. Introduced.

longipes, N. (M. Ju. ♃. y-w.) somewhat pubescent: stem erect or ascending, simple: leaves on slender petioles; leafets linear-lanceolate, serrulate, silky-pubescent beneath: stipules semi-lanceolate, acuminate, foliaceous: heads roundish-ovate, ebracteate, on very long peduncles: segments of the calyx setaceous, much longer than the tube, somewhat equal: petals lanceolate: ovary 5-ovuled. Rocky Mountains. 2—3 i.

andinum, N. (M. J. ♃. y-w.) cespitose, silky-canescent: caudex short and thick, branched above: leaves mostly radical: leafets cuneate-oblong, apiculate: stipules broadly ovate, membranaceous: heads of flowers hemispherical, solitary, on short scapes, bracteate at the base, with two sessile sheathing leaves: calyx densely villous; teeth subulate, shorter than the tube: ovary 3 to 4-ovuled: legume 1-seeded. Rocky Mts.

dasyphyllum, T. & G. (♃. p.) densely cespitose: caudex short and thick, branching above: leaves, peduncles and calyx canescently silky, with brownish hairs: leafets 3, lanceolate or oblong-lanceolate, acute or acuminate, entire: stipules membranaceous, lanceolate, subulate-acuminate: head globose, many-flowered, on a long radical peduncle: teeth of the calyx subulate-setaceous, nearly equal, longer than the tube, and half as long as the corol: legume 3 to 4 seeded. 3—4 i. Summit of Rocky Mts.

Southern.

carolinianum, Mx. (p-w. Ap. ♃.) small, procumbent: leafets obcordate, (upper one only emarginate) hairy toothed: stipules 2-cleft: umbels capitate, peduncled, reflected, few-flowered: corol scarcely exserted: legumes 3 to 4-seeded. 3—10 i.

microcephalum, Ph. (W. w-p. Ju. ♃.) ascending, pubescent: leafets obovate, emarginate, denticulate: stipules ovate, acuminate: heads very small, peduncled, few-flowered: flowers sessile: involucre ovate, awned: calyx awned, as long as the corol. California.

albopurpureum, T. & G. (☉. w. p.) decumbent or assurgent, villous-pubescent: leaves all on long petioles; leafets narrowly cuneiform, truncate or emarginate, denticulate: stipules ovate-lanceolate, subulate-acuminate: spikes ovate, very villous, at length on slender peduncles: teeth of the calyx setaceous, somewhat spreading, rather longer than the corol: petals scarcely connected. California.

fucatum, Lindl. (☉. w. r.) glabrous, ascending: leafets roundish-cuneiform, sharply denticulate, rather thick: stipules scarious, ovate, entire, mucronate with a long point: peduncles mostly longer than the leaves: involucre scarcely half the length of the somewhat hemispherical, few flowered heads, 9-cleft; the segments ovate, acuminate, entire: calyx many times shorter than the corol: the teeth triangular, acute, unequal, about the length of the tube: wings as long as the vexillum: legume stipitate, 5 to 8-seeded. California.

amplectens, T. & G. ( ) glabrous, erect, branching: leafets obovate-cuneiform, mucronately denticulate: stipules ovate, scarious, entire, aristate-mucronate: peduncles shorter than the leaves, involucre about half the length of the 5 to 6-flowered head, 4 to 5-parted; the segments somewhat lobed, obtuse: calyx much shorter than the corol, cleft almost to the base: the teeth subulate, very unequal: vexillum free, covering the wings: legume sessile, 6-seeded. 4—6 i. California.

gracilentum, T. & G. (☉. p.) nearly glabrous, slender, erect or ascending: middle leaves on very long filiform petioles; leafets cuneate-obcordate, spinulose-serrulate: stipules rather foliaceous; the lower ones linear-lanceolate and setaceously acuminate; the uppermost ovate-lanceolate and shorter: heads loose, 15 to 25-flowered: calyx glabrous; the teeth lanceolate-subulate, setaceously acuminate, thrice the length of the tube and about one-third shorter than the corol, legume 1 seeded. California. 8—10 i.

amphianthum, T. & G. (♃.) small: stems creeping, a little puberulent: leafets broadly obcordate, crenulate: stipules scarious, ovate, obtuse, or with a short abrupt point: heads rather few-flowered, on long filiform peduncles: teeth of the calyx lanceolate subulate, as long as the tube: legume 3 to 4-seeded: the stoloniferous branches also bearing solitary fertile flowers in the axils of the leaves, on short recurved peduncles. Texas.

aciculare, N. (March. Ap. ☉. r.) erect, branching from the base: leafets narrowly lanceolate-linear, acute, spinulosely and closely serrulate: lower stipules entire, acuminate: upper ones laciniate: involucre many-cleft, somewhat shorter than the globose head: flowers reflexed: teeth of the calyx simple, subulate, as long as the tube, rather shorter than the corol: legumes linear-oblong, 2-seeded. California.

polyphyllum, N. (Ap. ☉.) somewhat erect, glabrous: leafets 3 to 5, lanceolate-linear, spinulosely serrulate: stipules acuminate, laciniate and spinulose: involucre many-cleft, somewhat shorter than the sub-globose head: teeth of the calyx rather broadly subulate, pungent, about the length of the tube, and rather shorter than the abbreviated corol; legume 2-seeded. California.

Trifolium, MELILOTUS.

6—3. TRIGLO'CHIN. 7. Junc. ton—.

maritimum. (1) (arrow-grass. W. g. Ju. ♃.) fruit ovate-oblong, of six united carpels. The carpels vary in number from 3 to 6. Sphagnous swamps. 9—15 i. C. O. D. Mch.

palustre. (marsh arrow grass. W. g. Ju. ♃.) flowers triandrous: fruit of three united carpels nearly linear, attenuated at the base. 6—12 i. O. Onondaga. Mch.

triandrum, Mx. (Ju.) triandrous: flowers 3-cleft, short-pedicelled: carpels roundish triangular: leaves sub-setaceous, almost as tall as the spike or scape. 6—9 i. P. Canada. Mch.

16—10. TRIGONEL'LA. 93. Legu. s. emo. lax.

Exotic.

fœnum-græcum, (fenugreek. ☉.) legumes sessile, solitary, straight, erectish, sub-falcate, acuminate: stem erect: leaves wedge-oblong.

Southern.

sericea Ph. (2) (y. Ju. ☉.) leaves ternate, sessile, oblong, acute, silky-villose: peduncles axillary, 1-flowered, longer than the leaf: flower 1-bracted: divisions of the calyx linear: legume glabrous, very long.

6—3. TRIL'LIUM. 12. Smil. r. eme.

ses'sile. (3) (W. p. M. ♃.) flower sessile, erect: petals lanceolate, erect, twice as long as the calyx: leaves sessile, broad-ovate, acute. 8—10 i. S. P. Charleston, S—C. Florida.

pe[illegible]latum, Ph. (W. p. J. ♃.) flower sessile, erect: petals lance-linear, erect, a little longer than the calyx: leaves very long-petioled, lance-oval, acute.

erythrocarpum, Mx. (4) (smiling wake-robin A. w. & r. M. ♃.) peduncle erectish: petals lance-ovate, acuminate recurved, almost twice as long as the narrow sepals: leaves ovate, acuminate, rounded at the base, abruptly petioled. 8 i. S. T. F. N. V. White Mts. Mch.

pusil'lum, Mx. (5) (dwarf wake-robin. r. M. ♃.) peduncle erect: petals scarcely longer than the calyx: leaves oval-oblong, obtuse, sessile. S. P.

pen'dulum, W. (6) (nodding wake robin. W. w. M. ♃.) peduncle inclined; flower pendulous: petals flat, ovate, shortly acuminate, nearly equal with the calyx: sepals ovate-acuminate: leaves roundish-rhomboidal, acuminate, sub-sessile. F. T. B. Mch.

purpu'reum, Kin. (A. p.) leaves spatulate-ovate, acuminate, net-veined: flowers peduncled, nodding: petals larger than the calyx. Nearly allied to, but distinct from the preceding. E.

Triglochin. Gr. *treis*, three, and *glochin*, an angle, corner or point, alluding to the three-pointed capsule.

Trigonella. A diminutive of Lat. *trigona*, alluding to its little triangular flower.

Trillium. Lat. *trilix*, triple, from the prevalence of the number three.

(1) elatum, N. (2) americana, N. Lotus, Ph. (3) recurvatum, Bk? (4) pictum, Ph. undulatum, W. (5) pumilum, Ph. (6) cernum, Ph. Bw. E. 4th ed. not L.

erectum, (1) (false wake-robin. W. p. w-y. M. ♃.) peduncle erect or erectish, with the flower a little nodding: petals ovate, acuminate, spreading, equalling the sepals: leaves rhomboid, acuminate, sessile. Var. *atropurpureum*, petals large, dark purple. Var. *album*, petals smaller, white; germ red. Var. *flavum*, petals yellow: both petals and calyx leaves longer and narrower. H. H. E. 12 to 18 inches high. Leaves often 3 to 4 inches broad. Peduncle about 3 inches long. 9—16 i. *S.* T. C. F. N. V. Mch.

obovatum, Ph. (r w. ♃.) peduncles erect: petals obovate, obtusish, flat, spreading, scarcely longer or broader than the sepals: leaves rhomb-ovate, acuminate, close-sessile.

grandiflorum, (2) (W. w. M. ♃.) peduncle a little curved, and the flower a little nodding: petals lance-spatulate, connivent at the base, much larger than the calyx: leaves broad-rhomb-ovate. Berries dark purple. 1 f. *S.* P. V. O. Johnstown, Cambridge, and Utica, N. Y. Lake Erie. Mch. Genesee Falls. Dew.

nivale, Riddell. (W. w. Mar. ♃.) stem glabrous: leaves short petioled, oval, obtuse, glabrous, 5-nerved: peduncle erect: sepals lance-ovate, obtuse, 5-nerved: petals spatulate-obovate, obtuse, nerved, one third longer than the calyx. 2—3 i. Banks of the Scioto River.

Southern.

cer'nuum, (3) (W. r-w. M. ♃.) peduncles recurved: petals lanceolate, acuminate, larger than the calyx; leaves obovate and oval, tapering to the base, acuminate. 12—18 i.

stylosum, (4) (A. w-r.) slender: peduncle much shorter than the flower, recurved: petals undulate, spreading, oblong, obtuse, larger than the calyx: germ styliferous: style 1, as long as the stigma: leaves sub-petioled, lance-oval, acute at both ends. 8—10 i.

nervosum, E. (r-w. Ap.) peduncle recurved: petals lance-oblong, larger than the calyx: leaves lanceolate and ovate, acute at each end, membranaceous, nerved 6—8 i.

ovatum, Ph. (W. p. Ap. ♃.) peduncle erect: petals oblong, acute, spreading, a little longer than the linear sepals: leaves ovate, gradually acute, closely sessile.

5—1. TRIOS'TEUM. 58. Capr. r. eme. cath.

perfoliatum, (5) (fever root, horse-ginseng, wild coffee. O. p. J. ♃.) leaves oval, acuminate, connate, sub-pubescent beneath: flowers sessile, whorled. Berries purple or yellow. 2—4 f. *S.* Mch.

Southern.

angustifolium, W. (6) (W. A. y. Ju. ♃.) leaves lance-oval, sub-connate: peduncles opposite, 1-flowered: stem hispid. 2—3 f. K.

18—1. TRIPHO'RA,* N. (7) 21. Orch. g-r. vis-pasty.

pendula, M. (8) (three-bird orchis. W. w-p. Au. ♃.) root tuberous: stem leafy, about 3-flowered at the top: leaves clasping, ovate, alternate: lip entire. 4—6 i. *S.* P. Y. V. O. N. Westfield, Mass. Mch.

17—2. TRIPOLIUM. 55. Aster. ast. *haem.*

pauciflorum, Nees. Described under Aster.

angustum, Lindl. (   ) leaves linear, serrulate-scabrous, glabrous: stem narrow, very stiffly erect: branches straight, racemose: leafets of the imbricate, hemispheric involucre linear, acute: rays inconspicuous. A variety has one-flowered branches. Another variety has many-flowered branches.

Triosteum. Gr. *treis*, three, and *osteon*, bone, from the three hard seeds.

Triphora. Contracted from Plukenet's name, *trianthophorus*, bearing three flowers.

Tripolium. Gr. *treis*, three, *poleo*, to plough or to furrow; on account of the leaves being three-furrowed.

(1) rhomboideum, Mx. (2) rhomboideum, Var. grandiflorum, Mx. (3) catesbæi, E. (4) cernuum, Mx. (5) majus, Mx. (6) minus, Mx. (7) Arethusa, L. (8) trianthophorus, Sw. parviflora, Mx. nutans, Le Conte.

* See note to Orchis.

19—3. TRIP'SACUM. 10. Gram. far. fod—.

dactyloides, (sesame grass J. ♃.) spikes numerous, (3—4) aggregate: florets staminate, near the summit; pistillate below. Var. *monostachyon*, spike solitary. 3—5 f. S. Y. C

Southern.

cylindricum. Mx. ( ) spike solitary, cylindrical, separating into short joints: flowers all perfect. Perhaps a Rottbollia. E. S—C. M.

3—1. TRIPTEREL'LA. 13. Xyri. fod—. ton—.

Southern.

capitata, Wr. (1) (w. J. ☉.) flowers in a terminal head: angles of the germ scarcely winged. 6—8 i. S—C.
coerulea, M. (2) (b. S. ☉?) flowers few, in a terminal raceme: angles of the germ distinctly winged. 2—4 i.

3—2. TRISE'TUM. 10. Gram. far—. fod.

palustre, Mx. (3) (J. ♃.) panicle contracted, nodding, somewhat whorled: glumes 2—3-flowered: florets smooth, acuminate: lower one awnless: lower valve of the upper floret bicuspidate, awned below the tip. 1—2 f. S. O. N.
purpurascens, T. & G. (♃.) panicle very simple, somewhat racemed, few-flowered: glumes few-flowered, very unequal, entire: culm and leaves smooth: stipules very short, truncate. 2 f. S. Mch.
subspicatum, (4) (♃.) panicle somewhat spiked: awn at length reflexed, exceeding the glumes.

3—2. TRIT'ICUM. 10. Gram. s. nut. far. gel.

pauciflorum. Sz. (W.) spike simple, erect: spikelets about 2-flowered: culm simple, leafy, terete, deeply striate, smooth: leaves somewhat glaucous, scabrous on the ribs and margin. 2 f.
repens, L. (couch-grass, quack-grass. O. J. ♃.) spikelets oblong, 4—5-flowered: glumes subulate, many-nerved; florets acuminate: leaves flat: root and base of the stem creeping. 2 f. Troublesome to farmers in rich soils; very useful for binding the banks of canals, and sandy soils. S. Mch. *Agropyron, repens*, 7th edition.
caninum, L. (E. ♃.) spikelets 3—5-flowered, compressed: glumes 3—5-nerved, bristled at the tip florets bristled at the tip: roots fibrous. 2 f. S. Seneca Lake. Mch. *Agropyron caninum*, 7th edition. Gen. Agrop. expunged.

Exotic.

hybernum, (winter wheat. J ♂.) glume 4-flowered, tumid, even, imbricate, abrupt, with a short, compressed point: stipule jagged: paleas of the upper florets somewhat bearded. There are several varieties of this species, which are induced by culture.
æstivum, (summer wheat. J. ☉.) glumes 4-flowered, tumid, smooth, imbricated, awned. Smith says this may be a variety of the last.
composi'tum, (egyptian wheat.) spike compound; spikelets crowded, awned.

Varieties of wheat numerous—species few.

Tripsacum. Gr. *tripsis*, a rubbing or grinding; alluding either to the use of the grain, or to the polished aspect of the glumes.
Tripterella. A diminutive of Gr. *treis*, three, and *pterux*, wing; alluding to the three little wings proceeding from the corol.
Trisetum. Lat. *tres*, three, and *seta*, bristle; on account of the three beards or awns of the flower.
Triticum. Lat. *tritum*, ground or rubbed; from the manner in which its grains were prepared.

(1) Anonymous, Wr. (2) Burmannia biflora, L. (3) Avena, Mx. Aira palleus, M. (4) airoides, Pb. Aira, L.

12—12. TROL'LIUS. 61. Ranu. r. poi—. cath.

laxus, Sy. (1) (globe flower. y. M. ♃.) petals 5, oblong, spreading; nectaries shorter than the stamens. Petals always, or mostly five, obovate: capsule short, abrupt, crowded with the elongated style. P. R. Genesee Falls. Dewey.

8—1. TROPÆO'LUM. 73. Tropae. asc. f. lax. con.

Exotic.

majus, (nasturtion, indian cress. y. & r. Ju. ☉. & ♃.) leaves peltate, sub-repand: petals obtuse, some of them fringed.

14—2. TROPIDOCAR'PUM. 63. Cruci. asc. dia.

Southern.

gracile, H. (   ) nearly glabrous: leaves pinnatifid: silique linear. California.
scabriusculum, H. (   ) somewhat roughly hirsute: leaves bipinnatifid: silique lanceolate. California.

17—1. TROX'IMON. 53. Cich. sal. asc.

Southern.

glaucum, Ph. (W. y. Ju. ♂.) scape 1-flowered, glabrous: leaves lance-linear, flat, very entire, glaucous on both sides: divisions of the involucre imbricate, acute, pubescent.
cuspidatum, Ph. (2) (W. y. M.) scape 1-flowered, sub-pubescent: leaves linear, undulate and tomentose on the margin: divisions of the involucre imbricate, cuspidate, glabrous.

Troximon, KRIGIA.

6—1. TU'LIPA. 14. Lili. diu—. emo.

Exotic.

suavc'olens, (sweet tulip. M. ♃.) small: stem 1-flowered, pubescent: flower erect: petals obtuse, glabrous: leaves lance-ovate.
gesneriana, (common tulip. M. ♃.) stem 1-flowered, glabrous: flower various-colored, erect: petals obtuse, glabrous: leaves lanee-ovate.

13—1. TUL'LIA. 42. Labi. car. ton—.

Southern.

pycnan'themoides, (3) (false mountain-mint. W. r-p. Au. ♃.) leaves ovate, acuminate, tapering to the base, remotely toothed, hoary above, and glaucous beneath: bracts subulate, of the length of the striate calyx. 2—3 f. Tennessee.

5—3. TUR'NERA. 80. Cisti. ano. ton—.

cistoides, (y. Ju. ☉.) peduncles axillary, leafless: leaves serrate near the summit. Flowers resemble those of *Cistus carolinianus*.

Trollius. A barbarous word from the obsolete German *trol*, expressing anything round.

Tropæolum. Gr. *tropaion*, a trophy, from a fancied resemblance in the leaves and flower to a spear and helmet.

Troximon. Gr. *trōximon*, eatable; a just name for the original species.

Tulipa. From a Persian word, synonymous with turban, which is not unlike the swelling flower.

Tullia. In honor of Prof. Tully, of New Haven, Conn.

Turnera. In honor of Dr. Wm. Turner, one of the fathers of English botany.

(1) americanus, Donn. (2) marginatum, N.

(3) Discovered and named by M. C. Leavenworth. Dr. Tulley, Dr. Leavenworth, and Dr. Solon Smith, were the earliest of Prof. Ives' pupils in New Haven, Conn.

14—2. TURRI'TIS. 63. Cruc. asc. diu.

glabra, (W.) erect: radical leaves petioled, toothed, having branching hairs: upper ones broad-lanceolate, sagittate, glabrous, half clasping, glaucous: pod narrow linear, stiffly erect: petals scarcely longer than the calyx. R. Naturalized about N. Haven. Hudson's Bay.

stricta, Hk. (W.) erect, glabrous: leaves lanceolate; radical ones petioled, toothed; cauline ones sagittate, half-clasping, sub-dentate: flowers and siliques linear, elongated, stiffly erect. Rocky Mt. and West.

retrofrac'ta, Hk. (W.) erect, white-pubescent or glabrous: leaves lanceolate; radical ones petioled, toothed; cauline ones sagittate, half-clasping, glabrous, sub-dentate: flowers nodding: pods linear, elongated, pedicelled, and bent back. R. Hudson's Bay.

mollis, Hk. (w. ☉.) erect: lower leaves spatulate, sinuate-dentate; upper ones lance-sagittate, very entire; all, with the erect branching stems and pedicels with numerous spreading hairs: softly hirsute: siliques linear-elongated, erect, straight. A.

patula, Graham. (r-b.) erect: leaves lanceolate: radical ones petioled, dentate; cauline ones sagittate, half-clasping, glabrous, sub-dentate: flowers and siliques linear, elongated, very spreading. A var. has the radical leaves scarcely pubescent. Another var. has the radical leaves hoary-pubescent, sub-entire. A. R. Canada.

macrocarpa, N. (y-w.) radical leaves runcinate-dentate, or simply toothed, hairy; cauline ones lanceolate, sagittate, crowded, glabrous: siliques stricly erect, very long, narrow. 3—4 f. Oregon

spathulata, N. ( ) radical leaves broadly spatulate-oval, repandly toothed, hirsute; cauline oblong-lanceolate, clasping: siliques very long, erect. 12—18 i. Oregon.

brachycarpa, T. & G. (p. ♂.) glabrous and glaucous: radical leaves spatulate, toothed; cauline ones linear-lanceolate, acute, sagittate and somewhat clasping: siliques short, rather broadly linear: pedicels of the flowers pendulous, of the fruit spreading or ascending. Mch.

17—2. TUSSILA'GO. 55. Eupa. dem. bit. r. ton.

farfara, (colt's foot. y. Ap. ♃.) scape single-flowered, scaly: leaves cordate, angular toothed, downy beneath. The flower appears long before the leaves. 4—6 i. W. T. P. N. C. O. F. V.

SUB-GENUS NARDOSMIA.

frigida, W. (mountain colt's foot. y. M. ♃.) thyrse fastigiate: flowers with rays: leaves roundish-cordate, unequally toothed, tomentose beneath. V.

sagittata, Ph. (W. ♃.) thyrse ovate, fastigiate: flowers with rays: leaves radical, oblong, acute, sagittate, very entire; lobes obtuse.

palmata, W. (W. Ap. ♃.) thyrse fastigiate: flowers with obsolete rays: leaves roundish-cordate, half 7-lobed, gash-toothed, tomentose beneath. N. D.

corymbosa, Hk. ( ) leaves cordate deeply sinuate-lobed, angular-dentate, tomentose beneath. A.

19—3. TY'PHA. 8. Typh. ton—.

latifolia, (cat-tail, reed-mace. O. Ju. ♃.) leaves linear, flat, slightly convex beneath: staminate and pistillate aments close together. Wet. 4—6 f. S. Mch.

angustifolia, (W. Ju. ♃.) leaves linear, channelled, semi cylindric below, and flattish above: staminate and pistillate aments a little separated. Not so large as the last species. Wet. 3—5 f. S. P. F.

Turritis. Lat *turris*, a tower or turret, the leaves and flowers giving the stem a pyramidal form.

Tussilago. Lat. *tussis*, a cough, and *ago*, to drive or act upon, from its reputed efficacy.

Typha. Gr. *tiphos*, a bog or marsh; from its residence.

U.

Udora, SERPICULA.

16—10. U'LEX. 93. Legu. r. lax.

Exotic.

europæ'us, (furze. M. ♄.) leaves lance-linear, villose: bracts ovate, lax: branchlets erect.

5—2. UL'MUS. 99. Ulmas. ton. muc. dem.

americana, Mx. (elm, white elm. O. g-p. Ap. ♄.) branches smooth: leaves oblique at the base, having acuminate serratures a little hooking: flowers pedicelled: fruit fringed with dense down. Var. *pendula*, has hanging branches and smoothish leaves. Rafinesque says this is a distinct species. 40—70 f. *S.* Mch.

fulva, Mx. (1) (slippery-elm, red-elm. O. Ap. ♄.) branches scabrous, whitish: leaves ovate-oblong, acuminate, nearly equal at the base, unequally serrate, pubescent both sides, very scabrous: buds tomentose, with very dense yellowish wool: flowers sessile. The bark is very mucilaginous. 20—40 f. *S.* Mch.

nemoralis. (river elm. Ap. ♄.) leaves oblong, smoothish, equally serrate, nearly equal at the base: flowers sessile. *S.*

racemosa, Thomas. (♄.) flowers in racemes; pedicels in distinct fascicles, united at their bases: leaves ovate, acuminate, doubly serrate, glabrous above, pubescent beneath: stigmas recurved. A large tree.

Southern.

alata, Mx. (2) (whahoo. March. ♄.) branches on each side winged with a cork-like bark: leaves oblong-oval, acute, nearly equal at the base: fruit pubescent, ciliate. 30 f.

3—2. UNI'OLA. 10. Gram. far. ton. fod—.

latifolia, Mx. (W. A. Ap. ♃.) leaves broad, flat: panicle loose, nodding: spikelets long-peduncled: florets sub-falcate, monandrous: lowest ones abortive. 4 f. *S.* P.

gra'cilis, Mx. (W. Au. ♃.) panicle elongated, racemose, appressed: spikelets 3-flowered: florets spreading, straight, monandrous. lowest ones abortive. 3—4 f. *S.* Y. K.

spica'ta, (3) (W. L. Au. ♃.) panicle spiked, straight: leaves involute, distichous, spreading: spikelets 5 to 9-flowered: florets triandrous. 18 i. *S.* Y. B. C.

stricta, T. (W. ♃.) very smooth: leaves narrow, erect: panicle erect, contracted: spikelets linear-oblong, many-flowered: flowers straight, awnless. Intermediate between Festuca and Uniola; perhaps a Ceratochloa. Torrey. 1 f.

Southern.

paniculata, (4) (sea-side oats. L. Ju. ♃.) panicle large, compressed: spikes sub-sessile: glume 4 to 5-valved: flowers triandrous. 4—8 f.

ni'tida, Bald. (Ju.) leaves flat, narrow: panicle scattered, spreading: spikes few, sub-sessile: glume 3-valved: flowers monandrous. 2—5 f.

3—2. URALEP'SIS. 10. Gram. far. ton. fod—.

aristulata, N. (5) (Au. ☉.) lateral panicles concealed in the sheaths of the leaves: terminal ones partly exsert. glumes 3-flowered: bristle of the paleas as long as the lateral cusps. Whole plant covered with a viscid acid secretion. T. 1 f.

Ulex. Celt. *ec* or *ac*, a point: which is applicable enough to its appearance.

Ulmus. Lat. *ulmus*, which is from Celt. *elm*, having remained unchanged in English.

Uniola. Lat. *unus* one, so named from the aggregation of many glumes in one calyx.

Uralepsis. Gr. *oura*, a tail, and *lepis*, a scale or glume, intended to indicate the singularly caudate appearance of the outer corol valve.

(1) aspera, M. rubra, Mx. younger. (2) pumila, Wr. (3) distichophylla, Rs. Festuca distichophylla, Mx. (4) maritima, Mx. (5) Aira purpurea, M. not Wr.

Southern.

purpurea, Wr. (1) (S. ☉?) leaves subulate: panicle small, racemed: paleas villose; outer valve more than twice the length of the glume, when mature deeply 3-parted, 3-nerved and reflected; middle division with an awn as long as the valve. Whole plant has a strong saline taste. E. 2 f.

cornuta, E. ( ) culm and leaves very narrow, pilose: panicle slender: middle awn of the paleas longer than the valve, finely recurved. 2 f.

19—4. Urti'ca. 98. Urti. ast. diu. h. irr.

pumila, (2) (stingless nettle, rich-weed, clear-weed. O. Ju. ☉.) leaves opposite, ovate, acuminate, 3-nerved, serrate.: lower petioles as long as the leaves: flowers monœcious, triandrous, in corymbed heads, shorter than the petioles. Stem smooth and shining: when in deep shades, the stem is pellucid. 8—12 i. S. Mch.

urens, (dwarf stinger. J. ☉.) leaves opposite, oval, about 5-nerved, sharply serrate: spikes glomerate, in pairs. 9—14 i. S. N. P. T. Y. B. C.

dioica, (common nettle. O. J. ♃.) leaves opposite, cordate, lance-ovate, coarsely serrate: flowers diœcious: spikes panicled, glomerate, in pairs, longer than the petioles. 2—3 f. S. Mch.

procera, W. (great nettle. O. Ju. ♃.) leaves opposite, cordate, lance-ovate, serrate: petioles ciliate: flowers diœcious: spikes somewhat branched, glomerate, in pairs, equalling the petiole. Var. *gracilis*, slender: leaves lance-ovate; leaves and petioles hispid. Not so common as the last, which, if examined before full maturity, may be mistaken for this. 3—4 f. S.

capitata, (J. ♃.) leaves alternate, heart-ovate, acuminate, serrate, 3-nerved, twice as long as the petiole: glomerules spiked: the spikes are solitary, shorter than the leaves, leafy above: stem naked. 3—5 f. S. P. Canada. Mch.

canadensis, (3) (canada nettle, albany hemp. Ju. ♃.) leaves alternate, heart-ovate, acuminate, serrate, hispid both sides: panicles axillary, mostly in pairs, spread-branched: the lower staminate ones longer than the petioles; upper pistillate one elongated: stem covered with stings. 5—6 feet high. Var. *divaricata*, has smoothish leaves, and sometimes very spreading, solitary panicles. 4—6 f. S. T. P. B. C. O. F. N. Mch.

Southern.

chamoedroides, (Ph. March ☉.) leaves opposite, sub-sessile, ovate, serrate, strigose beneath: clusters of flowers axillary, sessile, sub-globose, reflexed. Prickles white, conspicuous, stimulant. 4—6 i.

2—1. Utricula'ria. 35. Lent. ton—.

ceratophylla, Mx. (4) (hooded millfoil. W. y. Ju. ♂.) leaves inflated, 6-whorled, with branching, capillary filaments on the sides: flowers sub-corymbed: upper lip of the corol somewhat 3-lobed; lower lip deeply 3-lobed; spur short, flattened-conoid, obtuse, deeply emarginate, appressed to the lower lip of the corol: fruit nodding: root very long, branching. 8 i. S. P. Y. B.

macrorhiza, (5) (bladderwort. W. y. J. ♃.) leafless, floating: scape many-flowered, furnished with large scales. flowers racemed: upper lip of the corol sub-3-lobed; lower lip entire, with the sides deflected; palate large, with brown stripes; spur elongated, approaching the lower lip of the corol, obtuse, emarginate, conic at the base; linear at the tip: fruit nodding: root very long, very branching. 6—8 i. S. T. B. P. C. O. F. N. Mch.

striata, Le Conte. (6) (y. J. ☉.) leafless, floating: scape with 1—2 scales, 5—6-flowered: upper lip of the corol broad, expanded, 3-lobed; intermediate lobe striate; lower lip sub-3-lobed, sides reflected; palate with brown spots; spur nearly linear,

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Urtica. Lat. *uro*, to burn; from its stinging properties.

Utricularia. Lat. *utriculus*, a little bladder, from the little bladders which serve to float the plant, in some species.

(1) Aira, Wr. (2) Adesia trinerva, R. (3) whitlowi, M. (4) inflata, Wr. (5) vulgaris, Ph. not L. (6) cornuta, Ph. not Mx. fibrosa, E. not Wr. biflora, Vahl.?

elongated, obtuse, emarginate, appressed to the lip of the corol, and nearly as long. *S.* Y. P. N.

gibba, (y. Ju. ♃.) leafless, floating: scape naked: upper lip of the corol emarginate; lower lip sub-3-lobed; middle lobe sub-revolute, crenate; spur gibbous, incurved, obtuse, entire. 1—3 i. *S.* T. Y. Pittsfield. Mch.

fornicata, Le Conte. (1) (y. Au. ☉.) leafless, floating: scape naked, 1—2-flowered: upper lip of the corol 3-lobed; middle lobe arched over the palate; lateral ones appressed; lower lip entire; spur incurved, conoid, obtuse, entire, appressed to the lower lip of the corol. *S.*

purpurea, Wr. (2) (W. p. Au. ♃.) leafless, floating: scape 2—3-flowered: upper lip of the corol truncate, emarginate; lower lip 3-lobed; lateral lobes saccate; palate small; spur flattened-conoid, entire, appressed to the lower lip of the corol: root branching: branches 4—5-whorled. *S.* P. Y. B. D. Mch. S—C.

personata, Le Conte. (y. ☉.) leafless, rooting: scape with scales, many-flowered: flowers racemed: upper lip of the corol emarginate, reclined; lower lip small, entire, obtuse or abruptly acute; palate large, prominent; spur linear-subulate, acutish, somewhat pendulous: root small, naked. 4—8 i. *S.* S—C.

setacea, (3) (y. J. ☉.) leafless, rooting: scape with scales, setaceous, distantly many-flowered: upper lip of the corol short, entire; the sides revolute at the tip; lower lip deeply 3-lobed; spur subulate, entire, as long as the lower lip: root small, naked. *S.* C. F. S—C.

cornuta, Mx. (leafless bladder-wort. W. y. Ju. ♃.) spur-nectary subulate, lengthened out longer than the corol, nearly vertical, acute; lower lip of the corol broad, 3-lobed: scape with two nearly sessile flowers at the top; no leaves at the base, but having dense alternate tufts of radical leaves. T. B. N. D. Mch.

minor, W. (Ju. y.) nectary carinate: upper lip emarginate, equal to the palate: leaves dichotomously 3-parted: corol with throat open. Mch.

Southern.

longirostris, (y. ☉.) leafless, floating: scape with scales, 1—2 flowered: upper lip of the corol sub-3 lobed; lateral lobes appressed; lower lip rather entire; spur linear-subulate, ascending, sub-incurved, emarginate longer than the lower lip of the corol.

integra, (4) (y. ☉.) leafless, floating: scape with scales 1—2-flowered: upper lip of the corol sub-3-lobed; lateral lobes sub-involute; lower lip entire; spur flattened-conoid, obtuse, entire, nearly equalling the lower lip.

fibrosa, Wr. (y.) scape 2-flowered: flowers large: spur obtuse: leaves root-shaped, fibrous. This and the next species are not satisfactorily defined. Le Conte.

biflora, Lk. (y. Ju.) nectary subulate, straight, nearly equalling the upper lip: scape about 2-flowered: leaves setaceous.

6—1. UVULA'RIA. 12. Smil. dem. ton—.

perfoliata, (bellwort. O. y. M. ♃.) leaves perfoliate, oval, obtuse, (lance-linear or oval-oblong in the young state:) corol bell [illegible], scabrous or granular within: anthers cuspidate. 8—12 i. *S.* Mch.

grandiflora, S. (5) (W. y. M. ♃.) leaves perfoliate, oblong, acute: petals smooth within: anthers obtusish: nectaries roundish. Flowers large. 9—15 i. *S.* T. V. O. Mch.

sessilifolia (O. y. M. ♃.) leaves sessile, lance-oval, becoming glaucous beneath: petals flat, smooth within: capsule stiped, (raised above the receptacle on a little stem:) stem glabrous. 8—12 i. *S.* Mch.

Southern.

puberu'la, Mx. (A.) leaves oval, rounded at the base, somewhat clasping, both sides colored alike: capsule sessile, ovate.

Uvularia. So named from the throat of the flowers being similar to the uvula of the throat.

(1) gibba, E. not L. minor, Ph. not L. pumila, Wr.? (2) saccata, 4th ed. (3) subulata, Gron.? (4) bipartita, E. (5) lanceolata, W. perfoliata major, Mx.

V.

10—1. Vaccin'ium. 51. Vacc. f. res. ton. lax.

1. *Leaves deciduous.*

stamin'eum, (squaw whortleberry, deer berry. O. w. M. ♄.) leaves oval, acute, entire, glaucous beneath: pedicels solitary, axillary, filiform: corol spreading, bell-form; divisions oblong, acute: anthers exsert, awned on the back: berry pear-form. Var. *album*, has the nerves and veins of the leaves hairy, and the berry globose. Pursh makes this variety a distinct species; but Smith says it can hardly be called a variety. Berries of this species are large, green, and mealy glaucous when ripe. 2—3 f. *S.*

dumo'sum. C. (1) (bush whortleberry. O. w. J. ♄.) branchlets, leaves and racemes a little hispid, bedewed with resinous specks: the leaves oblong-obovate, acute at the base, mucronate, entire, both sides colored alike: racemes bracted: pedicls short, axillary, sub-solitary, 2-bracted near the middle: corol bell-form; divisions roundish, including the anthers. Var. *hirtellum*, (2) racemes and calyx pilose: berries hispid. 12—18 i. *S.*

frondosum. (3) (blue whortleberry. O. w. M. ♄.) leaves oblong-ovate, obtusish, entire, glabrous, glaucous beneath, bedewed with many resinous dots: racemes lax, bracted: pedicels long, filiform, bracted: bracts linear: corol ovate-bell-form, with acute divisions and enclosing the anthers. Var. *lanceolatum*, having lanceolate leaves acute at both ends. Berries large and blue. 3 f. *S.*

resinosum, (4) (black whortleberry. O. p. M. ♄.) leaves slender, petioled, oblong-oval, mostly obtuse, entire, bedewed with resinous specks beneath: racemes lateral, 1-sided: pedicels short, somewhat bracted: corol ovate-conic, 5-cornered. Berries black. One variety has a yellowish-green, and another has a reddish-yellow corol. 1—4 f. *S.* Mch.

corymbosum, (5) (giant whortleberry, blue bilberry. O. w. M. ♄.) flower-bearing branchlets almost leafless: leaves oblong oval, acute at both ends, mucronate, sub-entire, sub tomentose beneath, and hairy both sides when young, but glabrous above, and a little hairy at the veins beneath when mature: racemes short, sessile, with scaly bracts: corols cylindric-ovate: calyx erect: style somewhat exsert. Var. *amœnum*, has the style not exsert, and the racemes are crowded: corol cylindric, and the calyx reflexed. The twigs are reddish, flowers large, with a reddish tinge. Var. *fuscatum*, has the leaves a little serrulate, glabrous: corymbed racemes terminal: pedicels long and nodding: corol cylindric with short direct divisions: style hardly exsert. Flowers striped with red: calyx brown. Berries black. In wet ground this species grows very large. 4—12 f. *S.* Mch.

pennsylvanicum. Mx. (6) (black-blue whortleberry. O. r. g. M. ♄.) branches angled above: dark green: leaves sub-sessile, lance-oval, mucronate, serrulate, both sides shining: fascicles of flowers crowded, sub-terminal: corol ovate, 5-toothed. Very branching, leaves flat, membranaceous: calyx green. 12—18 i. *S.* Mch.

ligustrinum. Mx. (p. r. J. ♄.) branches angular: leaves sub-sessile, erect, lanceolate, mucronate, serrulate: fascicles gemmaceous, sessile, flowers nearly sessile: corol oblong-ovate.

tenellum, A. (dwarf whortleberry. A. r-w. M. ♄.) racemes bracted, sessile: corol cylindric-ovate: leaves oblong-oval, somewhat wedge-form, serrulate, nearly smooth. W. P. B. White hills.

uliginosum, (r-w. Ap. ♄.) leaves obovate, obtuse, very entire, glabrous above, pubescent and glaucous beneath: flowers sub-solitary, octandrous: corol short-ovate, 4-cleft. Var. *alpinum*, Bw. (7) (winter-green whortleberry. A.) leaves obovate, entire: flowers sub-solitary: berries oblong, crowned with the style. 1—2 f. White hills. Mt. Marcy, (McComb's.) Dewey.

myrtiloi'des. Mx. (Ap. ♄.) leaves narrow, lanceolate, membranaceous, very entire, pubescent on the margin beneath, and near the nerves: flowers scattered, sub-solitary, very short-pedicelled. Labrador.

Vaccinium. Lat. *vaccinium*, the bilberry, which some say is altered from *baccinium*, a berry.

(1) frondosum, Mx. (2) hirtellum, A. (3) glaucum, Mx. (4) Andromeda baccata, Wm. (5 dismorphum, Mx. album, Lk. amœnum, W. (6) virgatum, W. tenellum, Ph. not Aiton, Bw. (7) gaultheroides, Bw.

cæspitosum, Mx. (♄.) small, cespitose, very glabrous: leaves wedge-obovate, round-obtuse, distinctly serrate, membranaceous: flowers on the branches solitary, sub-sessile: corol short-pedicelled. 3 i. Labrador.

2. *Leaves evergreen.*

vi'tis-i'dæa, (bilberry, cowberry. w-r. M. ♄.) low: stem creeping, branchlets erect: leaves obovate, emarginate, revolute, sub-serrulate: shining above, punctate beneath: racemes terminal, nodding: corol bell-cylindric. Sometimes tetrandrous. B. Monadnok. Canada.

ovatum, Ph. (W. M. ♄.) leaves petioled, ovate, acute, revolute, serrate, glabrous, coriaceous: racemes axilary and terminal, bracted, short: corol cylindric: calyx acute.

obtusum, Ph. (W. ♄.) creeping: leaves small, oval, roundish-obtuse at each end, mucronate, very entire, glabrous, coriaceous: peduncles axillary, solitary, 1-flowered.

Southern.

arbo'reum, Marshall. (farkleberry. w. M. ♄.) leaves petioled, obovate, acute at each end, mucronate, glandular-serrate, shining above, net-veined, sub-pubescent beneath: racemes bracted, nodding: pedicels axillary, solitary, filiform: corol cylindric-bell-form: divisions acute: anthers inclosed, awned on the back. 8—20 f. Charleston, S—C. Florida.

pal'lidum, A. (M. ♄.) leaves ovate, acute, serrulate, glabrous: racemes bracted: corol cylindric-bell-form. A doubtful species. Ph.

galezans, Mx. (y-w. M. ♄.) leaves sessile, wedge-lanceolate, sub-serrulate, veined, pubescent: fascicles sessile: pedicels very short: calyx acuminate: corol ovate; throat very compressed: style exsert.

myrtifolium, Mx. (♄.) creeping, very glabrous: leaves petioled, oval, lucid, revolute, sparingly denticulate: fascicles axillary, sub-sessile, few-flowered: corol sub-globose-bell-form, with 5 small short teeth: anthers awned on the back. Leaves perennial: berries black.

crassifolium, Ph. (r. J. ♄.) diffuse: branches ascending, lax: leaves lance-oblong, acute at each end, serrate, rigid, glabrous: racemes terminal, corymbed, bracted, few-flowered; flowers nodding: calyx appressed: corol bell-form, spreading, deeply and acutely 5-toothed. Leaves perennial.

nitidum, Ph. (r. M. ♄.) erect, very branching: branches 2-ranked: leaves shining, oval-obovate, acute at each end, glabrous, serrate: racemes terminal, corymbed, bracted, nodding: corol cylindric. Leaves evergreen.

myrsini'tis, Mx. (p. M. ♄.) erect, very branching, small-leaved: leaves sessile, oval, mucronate, sub-serrulate, smooth and lucid above, sub hirsute and scabrous punctate beneath: fascicles gemmaceous, terminal and lateral: corol oblong-ovate. Var. *lanceolatum*, leaves lanceolate, acute at each end. Var. *obtusum*, leaves roundish-obovate. Leaves evergreen.

buxifolium, Ph. (1) (W. w. J. ♄.) low: leaves obovate, crenate-toothed, glabrous: fascicles crowded, sub-sessile, axillary and terminal. corol short-ovate: filaments glandular: stigma capitate. Leaves evergreen.

Vaccinium, OXYCOCCUS.

3—1. VAGINA'RIA. 9. Cype. fod—.

Southern.

scirpoides, Mx. (2) (♃.) culm leafless, sheathed, spike ovate, sub-solitary: scales lance-spatulate. 12—18 i.

3—1. VALERIA'NA. 56. Vale. r. ner+. sed+. *pal.*

dioica, W. (r. J. ♃.) glabrous: radical leaves sub-spatulate-ovate, entire, very long petioled; cauline ones few, pinnatifid: divisions lanceolate, very entire and sub-dentate, obtusish. Hudson's Bay.

Vaginaria. Lat. *vagina*, a sheath, from the stem being clothed with leafless sheaths.

Valeriana. Lat. *valeo*, to be powerful, in allusion to the many powerful virtues of the plant.

(1) brachycerum, Mx. (2) richardi, P. Fuirena, Mx.

pauciflora, Mx. (W. w. J. ♃.) lower leaves pinnate; upper ones ternate; leafets oval, acute, serrate: panicle lax, few-flowered. 3 f. *S.* K.

sylvatica, Banks. ( ) glabrous, erect: stem striate: radical leaves petioled, ovate, or sub-spatulate, undivided: cauline ones parted-pinnate; divisions lance-ovate, sometimes entire: flowers perfect: lobes of the stigma minute, 2 to 3: fruit ovate, compressed, glabrous. R. Newfoundland. Mch.

capitata, W. ( ) stem erect, glabrous, pubescent at the joints: radical leaves petioled; sub-rotund, simple; cauline ones sub-sessile, simple or gash-ternate; leafets sinuate-serrate, ovate: upper one larger: panicle densely capitate: bracts very long: tube of the corol elongated: fruit ovate, compressed, glabrous. A.

Exotic.

phu, (valerian. ♃.) cauline leaves pinnate, radical ones undivided: stem smooth.

Southern.

obovata, Dc. Described under Phyllactis.

Valeriana, FEDIA.

3—1. VALE'RIANEL'LA. 56. Vale. r. nér+. sed. *pal.*

coerulea, (1) (b-w. J. ⊙.) stem dichotomous above, ciliate-angled: radical leaves obovate: cauline ones spatulate-oblong, ciliate: upper ones toothed at the base: involucre ciliate, scarious at the tip: fruit compressed, rhomboidal. A very small species. The size of the plant and habit is the most striking difference between this and the Fedia radiata. 4 i. Maryland.

20—2. VAL'LISNE'RIA. 22. Hydr. ton—.

spiralis. var. *americana*. (tape grass. W. w. Au. ♃.) leaves floating, linear, obtuse, serrulate at the summit, tapering at the base: peduncle of the pistillate flower long; of the staminate short and erect. In the river Hudson from Stillwater to the Highlands. *S.* T. C. P. B. N. H. Peekskill.

6—1. VANCOUVERIA. 78. Berb. b. r. ton+. dye. f. ref+.

hexandra, Morr. & Decaisne. (v. w.) leaves radical, 2 to 3-ternate: scape slender, simple: flowers in a lax, slightly panicled raceme, on filiform nodding pedicels. Oregon.

6—3. VERA'TRUM. 13. Mela. asc. esc. poi.

viride. (2) (itchweed, indian poke, white hellebore. O. g. J. ♃.) racemes panicled: bracts of the branches lance-oblong, the bract of the flowers longer than the sub-pubescent peduncles: leaves broad-ovate, plaited, many-nerved. 3—5 f. *S.*

angustifolium, Ph. (W. A. g-y. J. ♃.) flowers monœcious and diœcious: panicle simple: petals linear: leaves very long-linear, keeled. Tall. *S.* K.

Southern.

parviflorum, Mx. (A. g. Ju.) leaves lance-oval, flat, glabrous: panicle slender: spreading: petals acute at each end, staminiferous.

Veratrum, HELONIAS.

5—1. VERBAS'CUM. 38. Sola. l. cata+.

thap'sus, (mullein. O. y. J. ♂.) leaves decurrent, downy both sides: stem generally simple, though sometimes branched above: flowers in a cylindric-spike. When

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Valerianella.

Vallisneria. In honor of Anthony Vallisneri, a noted French botanist.

Veratrum. Some derive it from Lat *vere atrum*, truly black, from its black root.

Verbascum. Lat. As if *barbascum*, from *barba*, a beard, from its hairy, shaggy leaves.

(1) Fedia coerula, MSS. of Aikin. Some authors have removed all our species of Fedia to this genus. Both genera need reviewing and comparing. (2) album, Mx.

botanists are so infatuated with wild speculation, as to tell us the mullein was introduced, they give our youngest pupils occasion to sneer at their teachers. Var. *thapsoides*, stem branched. 3—5 f. S.

blatta'ria, (moth mullein, sleek mullein. W. p-w. w-y. J. ♂.) leaves glabrous, tooth-serrate; lower ones oblong-obovate; upper ones heart-ovate clasping: pedicels 1-flowered, in a terminal peduncled raceme. Var. *alba*, leaves toothed: flowers white. Var. *lutea*, (1) leaves doubly serrate: flowers yellow. 2—3 f. S. T. N. Y. P. B. C. O. H. M. F. Mch.

lychni'tis, (W. y. J. ♂.) leaves oblong-wedge-form, white-downy beneath: spikes lax, lateral and terminal. S. P.

13—1. VERBE'NA. 41. Verb. h. dis. cata. aro.

spuria, (W. b. Ju. ♃. ♂.) stem decumbent, with spreading branches: leaves in many-cleft divisions: spikes filiform: bracts exceeding the calyx. 1—2 f. S. P. Y. C.

hastata, (vervain, simpler's joy. O. p-w. Ju. ♃.) erect, tall: leaves lanceolate, acuminate, gash-serrate; lower ones sometimes gash-hastate: spikes linear, panicled, sub-imbricate. Var. *pinnatifida*, has the leaves gash-pinnatifid, coarsely toothed. Var. *oblongifolia*, leaves lance-oblong, deeply-serrate, acute: spikes filiform, panicled. 2—5 f. S. Mch.

urticifolia, (nettle-leaf vervain. O. w. Ju. ♃.) erect, sub-pubescent: leaves ovate, acute, serrate, petioled: spikes filiform, axillary and terminal: flowers remotish. 2—4 f. S. Mch.

angustifolia, Mx. (2) (pigmy vervain. W. b. J. ♃.) low, erect: leaves lance-linear, tapering to the base, thinly serrate, with channelled veins: spikes filiform, solitary, terminal or axillary. 1 f. S. N. P. Y. M. C. H. Peekskill. Mch.

Southern.

auble'tia, (3) (W. p. M. ♃.) assurgent: spikes solitary, imbricate, long-peduncled: divisions of the corol emarginate: leaves oval, deeply serrate and divided, petioled.

bracteosa, Mx. (4) (W. p. Ju. ♃.) small, decumbent, very hirsute: leaves laciniate: flowers spiked, sub-imbricate: spikes squarrose with very long linear bracts, spreading every way. D.

paniculata, Lk. (W. Ap. Ju. ♃.) erect, somewhat scabrous: leaves lanceolate, coarsely serrate, undivided: spikes filiform, imbricate, corymb-panicled. 4—6 f.

diffusa, Lk. (p. ♃.) erect, very branching: leaves lance-ovate, serrate, sub-pubescent: spikes very long, lax, panicled, very diffuse.

caroliniana, (5) (W. p. J. ♃.) erect, scabrous: leaves oblong-obovate, obtuse, unequally serrate, tapering to the base, sub-sessile: spikes very long, filiform: flowers distinct. 2 f. Charleston, S—C.

stricta, Vent. (W. b. Ju. ♃.) hirsute, hoary: stem stiffly erect: leaves sessile, obovate, serrate, sub-tomentose, very hirsute: spikes straight, imbricate, somewhat fascicled. Var. *mollis*, T. (W. p.) stem erect, simple, terete, villose: leaves ovate, acutish, unequally gash-toothed, teeth acute, hirsute above, soft-villose beneath: spikes dense-flowered, straight, terminal, somewhat in threes. Probably a distinct species. T. D.

bipinnatifida, N. (W. b. J. ♃.) somewhat erect, hirsute: leaves 3-cleft, bipinnatifid; divisions linear: nuts deeply punctate.

17—2. VERBESI'NA. 55. Anth. l. aro. bit. deo. stim.

siegesbeckia, Mx. (6) (crownbeard. y. Ju. ♃.) stem winged: leaves opposite, lance-ovate, acuminate at both ends, sharply serrate: panicle brachiate: flowers in fascicles on the ends of the branches. 3—6 f. S. P. M. Charleston, S—C.

virginica, (w. Ju. ♃.) stem narrow-winged: leaves alternate, broad-lanceolate, sub-serrate: corymb compound: involucre oblong, pubescent: ray-florets 3 or 4. 3—6 f. S. P. S—C.

Verbena. Lat. *verbena*, from Celt. *ferfaen*, meaning to remove the stone, whence the English vervain.

Verbesina. Altered from *verbena*, to which *valata* bears resemblance.

(1) claytoni, Mx. (2) rugosa, W. (3) longiflora, Lk. Buchnera canadensis, L. (4) Zapania, Lk. (5) Phryma caroliniensis, Wr. (6) Siegesbeckia occidentalis, L.

Southern.

sinuata, E. (1) (w. Oct. ♃.) leaves alternate, sessile, sinuate, attenuate at the base: flowers corymbed: involucre imbricate. 4—6 f.

17—1. VERNON'IA. 55. Inul. ton. stim.

noveboracensis, (2) (flat-top. p. Au. ♃.) tall: leaves thick-set, lanceolate, serrate, rough: corymb fastigiate: scales of the involucre filiform at the apex. 4—6 f. S. B. P. C. H. M. F. N. Mch.

præalta, (3) (W. r. Au. ♃.) stem tall, angled, thickly pubescent: leaves thick set lanceolate, acutely serrate, pubescent beneath: corymb fastigiate: scales of the involucre ovate, acute, awnless. Resembles the preceding, and probably only a variety. 4—7 f. S. P.

corymbosa, Sz. & Keating. (W. r.) stem sulcate, sub scabrous: leaves thick-set, sessile, sub-clasping, lanceolate acuminate, sharp-serrate below, entire towards the apex, scabrous above, smooth and hollowed punctate beneath: corymb terminal fastigiate: scales of the involucre oval, obtuse, ciliate. 1 f.

baldwini, T. (W.) stem soft pubescent: leaves lance-ovate, sharp-serrate, scabrous above, pubescent beneath: corymb diffuse, sub-fastigiate: involucre scales lanceolate, squarrose, reflexed, scabrous pubescent.

Southern.

oligophylla, Mx. (p. Ju. ♃.) stem simple, branching above: radical leaves oval; cauline ones lanceolate: all toothed: corymb panicled: scales of the involucre lanceolate, acuminate. Varies with the flowers sub-sessile and peduncled. 2 f. S—C.

scaberrima, N. (p. Ju. ♃.) leaves lance linear, acute, close-sessile, very scabrous,. nearly entire: corymb sub-umbelled, few-flowered: scales of the involucre lanceolate, naked, filiformly acuminate. Stem simple. 2 f.

angustifolia, (p. Ju. ♃.) stem simple: leaves numerous, long-linear, nearly entire: corymb sub umbelled: scales of the involucre rigidly mucronate. 3 f. S—C.

tomentosa, E. (4) (p. Au. ♃.) stem slender, tomentose above: leaves long, narrow, lanceolate, very acutely serrate, slightly scabrous above, hoary-tomentose beneath: corymb fastigiate: scales of the involucre, filiform at the apex. 3—5 f.

fasciculata, Mx. (W. Au. ♃.) leaves long linear, sparingly serrate: flowers corymbed, erect, approximate: involucre ovoid, smooth: scales unarmed.

altissima, N. (5) (W. p. Au. ♃.) stem glabrous: leaves lanceolate, serrate, somewhat scabrous: involucre small hemispheric: scales ovate, acute, ciliate, unarmed, closely appressed. Var. *marginata*. T. & J. (W. p.) stem glabrous: leaves narow-lanceolate, glabrous, very entire: corymb fastigiate: involucre hemispheric-turbinate: scales ovate acute, arachnoid-ciliate, a little mucronate, close-appressed. This may be a distinct species. T.

2—1. VERONI'CA. 37. Scrop. ton—. cat.

officinalis, (speedwell. W. p. M. ♃.) spikes lateral, peduncled: leaves opposite, obovate, hairy: stem procumbent, rough-haired. 9—12 i. S. T. Y. C. P. M. N. B. H.

serpyllifolia, (paul's betony, smooth speedwell. O. b. M. ♃.) racemes terminal, sub-spiked: leaves ovate, glabrous, crenate: capsule about as long as the styles. 2—6 i. S. Mch.

alpina, L. (A.) corymb terminal: leaves opposite, lance-oblong, acute, toothed: calyx hispid.

anagallis, (brook pimpernel, long leaved brooklime. W. b. J. ♃.) racemes opposite, long, loose: leaves lanceolate, serrate: stem erect. 12—18 i. S. O. T. Y. N. P. C F. Canada. Mch.

Vernonia. In honor of Wm. Vernon, an industrious collector of American plants.

Veronica. Etymology obscure; the common one is Lat. *verus*, true, and Gr. *eikōn*, a figure; probably this plant was dedicated to St. Veronica.

(1) laciniata, N. (2) Chrysocoma gigantea Wr.? (3) Serratula, L. Chrysocoma tomentosa, Wr.? (4) Chrysocoma tomentosa, Wr.? (5) Chrysocoma gigantea, Wr.?

beccabun'ga, (brook-lime. b. J. ♃.) racemes opposite: leaves oval, obtuse, sub-serrate, glabrous: stem procumbent, rooting at the base. Probably a variety of the last. 9—18 i. *S.* B. P. C. F. N.

scutella'ta. (scull-cap speedwell. O. b. J. ♃.) racemes lateral, alternate; pedicels divaricate: leaves lance-linear, somewhat toothed. 9—12 i. Mch.

arven'sis, (wall speedwell. O. w-b. M. ☉.) flowers solitary, nearly sessile: lower leaves heart-ovate, serrate, petioled: floral leaves lanceolate, sessile, longer than the peduncles: divisions of the calyx unequal. Var *reniformis*, leaves sessile, reniform, entire. This variety is made a distinct species by Rafinesque. 3—8 i. *S.* Mch.

agres'tis, (field speedwell, neckweed. W. b. M. ☉.) flowers solitary, leaves heart-ovate, serrate, petioled: stem procumbent, pubescent: segments of the calyx ovate, equal, pilose. 5—10 i. *S.* P. Y. B.

peregri'na, (1) (purslane speedwell. O. w. M. ☉.) flowers sessile, solitary: leaves glabrous, lance-linear, toothed and entire, obtuse; lower ones opposite: stem erect. 4—8 i. *S.* Mch.

hederifolia, (ivy speedwell. w-b. M. ☉.) flowers solitary: leaves equalling the petioles, round-cordate, 5-lobed: upper ones 3-lobed: segments of the calyx cordate, acute, ciliate: stem procumbent. Y.

Southern.

reniformis, Ph. (W. b. J. ♃.) spikes peduncled; peduncles lateral, axillary, 1-bracted: leaves opposite, long-petioled, heart-reniform, gash-crenate: stem creeping.

Veronica, Leptndra.

14—1. Vesiçaria. (2) 63. Cruc. asc. stim—.

didymocarpa, Hk. (W.) white downy, down stellated: radical leaves broad-ovate-spatulate; the rest lanceolate, sub-entire: calyx equal: silicles large, inflated, in pairs. Rocky Mts. and west.

arctica, Hk. ( ) stellately tomentose: hoary: radical leaves spatulate: the rest sub-linear, very entire: calyx equal: silicles globose, longer than the somewhat thickened style. A. Canada.

ludoviciana, Dc. (Ap. J. y. ♃.) canescent with a stellate pubescence: radical leaves spatulate, entire, obtuse; cauline linear: style slender, longer than the ovary, and nearly as long as the obovate-globose silicle. Oregon, N. W. Coast.

alpina, N. (♃.) dwarf and cespitose, canescent with a dense stellate pubescence: leaves linear-spatulate, entire: calyx equal at the base, deciduous: silicle inflated below, compressed at the summit, shorter than the slender style. Rocky Mts.

didymocarpa, H. (♃.) canescent with a stellate pubescence: radical leaves broadly obovate-spatulate; cauline ones spatulate-lanceolate, mostly entire: silicles large, inflated, didymous: seeds not margined. Rocky Mts.

Southern.

shortii, T. & G. (y. ☉.) decumbent, somewhat pubescent with stellate hairs: leaves elliptical, sessile, entire, or slightly repand: silicle globose with scarcely any stipe: style more than twice as long as the silicle: seeds 2 in each cell, not margined: petals obovate: filaments dilated at the base. Kentucky.

grandiflora, H. (☉.) canescent with a stellate pubescence: leaves sessile, cuneate-oblong, sinuately toothed: silicle globose, glabrous: style about two thirds the length of the silicle: petals obcordate, twice as long as the calyx: stamens thickened at the base. Texas.

repanda, N. ( ) stem minutely and sparingly pubescent, decumbent: leaves linear-oblong or nearly linear, almost glabrous, narrowed at the base, repand, obtuse: silicle obovate-globose, on a short stipe, style about two-thirds as long as the silicle: stigma capitate: petals obovate, twice the length of the calyx: filaments subulate. Arkansas.

angustifolia, N. (Ap. ☉.) canescently and stellately pubescent: radical leaves lyrately pinnatifid or repandly toothed, oblong, attenuated at the base; cauline-linear, entire or repand: silicle globose, glabrous, nearly sessile: style filiform, rather shorter than

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Vesicaria. Lat. *vesica*, a bladder, from the inflated silicle.

(1) caroliniana, Wr. carnulosa, Lk. (2) Alyssum, L.

the silicle: petals obovate-oblong, twice the length of the ovate sepals: filaments subulate, dilated at the base. Arkansas.

nuttallii, T. & G. (y. ☉.) somewhat pubescent, branched from the base and procumbent: leaves lanceolate oblong, obtusely repand-dentate or almost entire: silicle pyriform-sub-globose, somewhat stipitate, glabrous: style two-thirds as long as the silicle: petals obovate: filaments dilated at the base. 12—18 i. Arkansas.

brevistyla, T. & G. (☉.) densely and stellately pubescent: radical leaves lyrately pinnatifid or toothed: cauline ones oblong, sessile, dentate-serrate: silicle globose, sessile, glabrous: style rather thick, one third the length of the silicle: seeds margined, about 6 in each cell: petals broadly obovate: filaments dilated at the base. Texas.

gracilis, H! (☉.) somewhat scabrous with sparse stellate hairs: leaves oblong and linear-oblong, entire or remotely denticulate: silicle globose, stipitate, shorter than the style, glabrous: seeds 2—3 in each cell, not margined: petals obovate: filaments subulate. Texas.

16—10. VEXILLA'RIA.) Ea. (1) 93. Legu. f. nut. g-h. asc.

virginiana, W. (butterfly weed. W. b. Ju. ♃.) leaves ternate, ovate: calyx 5-parted, scarcely longer than the bracts: divisions subulate, diverging: legumes sub-ensiform. Climbing. *S.* P.

mariana, Lim. (July. Aug. b. ♃.) glabrous stem somewhat twining or trailing: leaves 3-foliolate, ovate-oblong or ovate-lanceolate: peduncles short, 1—3-flowered: bracteoles lanceolate-subulate, much shorter than the calyx, similar to and scarcely larger that the bracts: legumes linear-oblong, about 4-seeded, torulose glabrous. *S.* Stem 2 f. or more. New Jersey to Florida.

Southern.

plumiera, P. (   ) leaves ternate, ovate-oblong, acuminate: calyx bell-form, shorter than the ovate bracts: corol large, silky. Climbing.

5—3. VIBUR'NUM. 58. Capr. ast. fra.

prunifolium, W. (black haw, sloe. w. J. ♄.) leaves round-obovate and oval, acutely serrate, glabrous; petioles margined. 8—15 i. *S.* N. Y. P. Peekskill, Florida.

pyrifolium, Lk. (w. M. ♄.) glabrous: leaves ovate, acutish, sub-serrate; petioles naked: fruit oblong-ovate: cymes sub-peduncled. Berries dark-colored. 5—10 f. W. T. N. M.

lentago, (sheep berry. O. w. J. ♄.) glabrous: leaves broad-ovate, acuminate, hook-serrate; petioles margined, undulate: cymes sessile: branches when full grown often form a fastigiate top. Berries black, oval, and pleasant-tasted: somewhat mucilaginous. 8—15 f. *S.* Mch.

nudum, (w. M. ♄.) very glabrous: leaves oval, sub-entire, margin revolute; petioles smooth: cymes peduncled, and without bracts. Berries black. 8—10 f. *S.* P. Y. W. B. C. Canada.

cassinoides, W. (J. ♄.) glabrons: leaves lance-ovate, acute at each end, crenate, sub-revolute at the margin: petioles keeled, without glands. *S.*

dentatum, (arrow-wood. W. w. M. ♄.) smoothish: leaves roundish and ovate, acute, tooth-serrate, furrow-plaited, glabrous both sides: cyme peduncled: fruit sub-globular. Berries blue. 4—12 f. *S.* T. V. N. Y. B. P. C. M.

pubescens, Ph. (2) (W. w. J. ♄.) pubescent: leaves round-ovate, acuminate, tooth-serrate, furrow-plaited, villose beneath: stipules two, subulate: cymes peduncled: fruit oblong. 6 f. *S.* T. Y. O. M. Mch.

lantanoi'des, Mx. (hobble-bush, tangle-legs. W. w. M. ♄.) leaves broad, round-cordate, abruptly acuminate, unequally serrate: petioles and nerves furnished with powdery, rusty down: cymes sessile: fruit ovate. Stem very flexible and crooked. 4—8 f. S. F. N. Ithaca, N. Y.

Vexillaria. Lat. *vexillum*, a banner, alluding to the size of that part of the flower.

Viburnum. Lat. *viburnum*, a name used by Virgil for a pliant, tough plant: Seb. Vaillant derives this word from Lat. *viēre*, to bind.

(1) A substitute for a ridiculous name. See Persoon, p. 302, genus No. 1712.

(2) dentatum pubescens, A. dentatum tomentosum, Mx. tomentosum and villosum, R. rafinesquianum, Rs.

acerifolium, (maple guelder-rose, dockmackie. O. w. J. ♄.) leaves heart-ovate or 3-lobed, acuminate, sharp-serrate, pubescent beneath: cymes long-peduncled. Stem very flexible: leaves broad and sub-membranaceous 4—6 f. *S.* The oldest Dutch settlers in Columbia county, N. Y., inform us that the Indians in that vicinity considered the external application of the leaves of the dockmackie, as a sovereign remidy in every kind of inflammatory tumour; and that they have ever since adopted this practice with success. Mch.

oxycoc'cus, Ph. (1) (high cranberry. W. r-w. J. ♄.) leaves 3-lobed, 3-nerved; lobes long-acuminate, with a few scattering teeth; petioles glandular, grooved above: cymes rayed. Fruit resembles the low cranberry, red, and very acid. 5—8 f. *S.* W. C. T. V. P. O. F. N. D. Mch.

ed'ule, Ph. (3) (w. Ju. ♄.) leaves 3-lobed, obtusish at the base, 3-nerved; lobes very short, tooth-serrate, with acuminate serratures; petioles glandular: cymes radiate. Small and upright. Resembles the oxycocus. P. C. Canada.

ellipticum, Hk. ( ) leaves elliptic, obtuse, shortly petioled, parallel veined above, chiefly coarsely serrate; under side (nerves chiefly) very hirsute: corymbs dense, peduncled: ovaria very hirsute: berries oval-globose, black. A variety has the ovaria glabrous. 2—4 f. R.

Exotic.

opu'lus, (guelder rose, snowball. w. J. ♄.) leaves 3-lobed, sharp-toothed; petioles glandular, smooth: flowers in compact cymes, surrounded with radiating florets. Var. *roseum*, has the whole cyme made up of radiating florets.

linus, (laurestine. r-w. ♄.) leaves ovate, entire, with tufts of hair in the axils of the veins beneath: flowers in smooth cymes.

Southern.

obovatum, Wr. (3) (M. ♄.) glabrous: leaves obovate, crenate-dentate or very entire, obtuse: cymes sessile: fruit roundish-ovate. Var. *punicifolium*, leaves obovate, entire or slightly crenate at the apex, obtuse. 4—8 f.

laevigatum, (w. J. ♄.) leaves lanceolate, smooth, remotely serrate, very entire at the base: branchlets 2-edged.

nitidum, (♄.) very glabrous: leaves lance-linear, shining on the upper surface, obsoletely serrate or entire: branches 4-angled.

molle, Mx. (W. J. ♃.) leaves roundish-cordate, furrow-plaited, toothed, pubescent beneath; petioles sub-glandular: cymes with rays: fruit oblong-ovate. Berries red.

16—10. Vi'cia. 93. Legu. f. nut. g-h. asc.

sati'va, (tare. O. b-p. Ju. ☉.) flowers in pairs, sub-sessile: stipules toothed, marked with dots: leafets oblong-ovate, retuse, mucronate: legumes erect, linear-terete, glabrous. Perhaps it may have been introduced. *S.*

americana, (p. M. ♃.) sub-pubescent: peduncles many-flowered, shorter than the leaves: stipules semi-sagittate, toothed: leafets numerous, lance-oval, obtuse, mucronate, veined, sub-alternate: stem angled. O. P. Y. R. Niagara. Genesee Falls. Mch.

cracca, (tufted vetch. b. S. ♃.) spikes many-flowered, imbricate backwards, larger than the leaves: stipules semi-sagittate, linear-subulate, entire: leafets numerous, lance-oblong, pubescent. *S.* M. P. B. O. N. C. Canada. Mch.

caroliniana, Wr. (4) (w. M. ♃.) peduncles many-flowered: flowers distant: stipules lance-ovate, entire: leafets 8 to 10, lance-oval, smoothish. The banner of the flower is tipped with black. *S.* P. Y. D. Mch.

tridentata, Sz. & Keating. (W. b.) stem sulcate, sub-pubescent: leafets numerous, narrow-oblong, entire, obtuse, short-mucronate, sparingly pilose above, densely pilose beneath: lower stipules wedge-form, broadly 3-cleft, with 3 prominent nerves, pubescent; upper ones lanceolate, long, acuminate, villose: calyx and peduncles pubescent.

gigantea, Hk. (p.) sub-pubescent: stem sulcate: leafets 20—26, oblong, petioled, obtuse, mucronate: stipules large, semi-sagittate, deeply dentate at the base: pe-

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Vicia. Lat. *vincio*, to bind, because it twines round other plants, or from Celtic *gwig*.

(1) opuloides, M. opulus pimina. Mx. americanum, A. (2) opulu sedule, Mx. (3) cassinoides, Mx. (4) parviflora, Mx.

duncles much shorter than the leaves, 5—10-flowered: flowers crowded: style scarcely bearded: legumes broad-oblong, glabrous, obscurely reticulate. Becomes black on drying. R.

exigua, N. ( ) pubescent: leafets 6—8, linear-oblong, rather obtuse: stipules narrow, semi-sagittate, entire or incisely serrate: peduncles filiform, 1-flowered, shorter than the leaves: teeth of the calyx lanceolate, broad at the base, shorter than the tube; sinuses obtuse: legume oblong, glabrous, 4—5-seeded. S. Oregon.

tetrasperma, Loisel. (b. J. ☉.) peduncles mostly 2-flowered: legume smooth, 4—5-seeded: leaves oblong, truncate. C. T. Canada. *Ervum tetraspermum*, 7th edition.

oregana. N. (♃.) pubescent: stem weak: leafets 4—8 pairs, elliptical-oblong, somewhat serrated at the summit, cuspidate, rarely emarginate: stipules lunate, semi-sagittate, incisely serrate: peduncles 3—5-flowered, rather shorter than the leaves: teeth of the calyx ovate-lanceolate, acuminate, the 2 upper nearly as long as the lateral ones: style slightly pubescent: legume broadly sabre-shaped, glabrous, about 5-seeded. 1—2 f. Oregon.

truncata. N. (J. ♃.) somewhat pubescent: leafets 5—6 pairs, oblong-linear, usually truncate, serrate or tridentate at the apex: stipules lunate, incisely serrate: peduncles 4—7-flowered, rather shorter than the leaves: lower teeth of the calyx lanceolate, acuminate: the upper ones very short: style very villous at the apex. Oregon.

sparsifolia, N. ( ) slightly pubescent: leafets 5—6 pairs, narrowly linear, nearly acute, mucronulate: stipules bifid, entire, or sparingly toothed: peduncles 4—7-flowered, about as long as the leaves: lower teeth of the calyx acuminate; upper ones much shorter: style very villous at the summit. Oregon.

Exotic.

faba, (garden bean, windsor bean. w. & blk. J. ☉.) stem many-flowered, erect, strong: legumes ascending, tumid, coriaceous: leafets oval, acute, entire: stipules sagittate, toothed at the base. From Persia.

Southern.

acutifolia, (w. Ap. ♃?) peduncles few-flowered, longer than the leaves: stipules lanceolate, entire: leafets (6) linear, acute at each end: stem glabrous.

ludoviciana, N. (♃. b. M.) glabrous: leafets 10—12, elliptical or obovate, obtuse or emarginate: stipules subulate, simple or sagittate: peduncles 2—6-flowered, at length longer than the leaves: flowers closely approximated: teeth of the calyx broad, acuminate, shorter than the tube: legume broadly sabre-shaped, glabrous, 5—6-seeded: seeds compressed, dark brown. Texas. La. 2—3 f.

leavenworthii. T. & G. ( ) pubescent: leafets 10—14, oblong-linear, obtuse or emarginate: stipules minute, semi-sagittate, entire: peduncles shorter than the leaves, 2—4-flowered: teeth of the calyx subulate, somewhat equal, all longer than the tube: style slightly pubescent at the summit: legume oblong, 6-seeded. 1—2 f. Arkansas.

micrantha, N. (Ap. M.) glabrous: leafets 4—7, linear-obtuse or acute: stipules lanceolate, semi-sagittate: peduncles shorter than the leaves, 1—2-flowered: teeth of the calyx lanceolate, shorter than tube: legume sabre-shaped, 7—10 seeded. Texas Arkansas. La.

Vicia, ERVUM, LATHYRUS.

3—2. VILFA. 10. Gram. far. fod. ton.

Glumes nearly equal, lanceolate, acute, keeled, membranaceous: paleas nearly equal, about as long as the glumes, lance-ovate, acute, pubescent: stamens mostly wanting in lateral panicles.

[This genus is not described in the genera; it is considered as an Agrostis by most botanists.]

heterolepis, Gray. (♃.) leaves setaceous: panicle pyramidal, few-flowered: inferior glume subulate; superior one ovate, cuspidate, about as long again as the inferior: paleas sub-equal, unawned. Mch. Western New York.

Vilfa.

5—1. VILLAR'SIA. 46. Gent. bit. ton.

lacunosa, V. (1) spur-stem, floating-heart. w. Ju. ♃.) leaves heart-reniform, (or shortish heart-form,) sub-peltate, lacunose beneath, floating; petioles bearing the flowers: corol glabrous. *S.* T. B. C. Plainfield, Mass. K.

Southern.

cordata, E. (Ju. ♃.) leaves cordate, very entire; petioles bearing the flowers. S—C.

5—1. VIN'CA. 47. Ascl. dia. exp.

Exotic.

minor, (periwinkle. b. Ap. ♄.) stems procumbent: leaves lance-oval, smooth at the edges: flowers peduncled: teeth of the calyx lanceolate.

major, W. (b. M.—S. ♄.) stem nearly erect: leaves ovate, ciliate, flowers stalked: teeth of the calyx setaceous, elongated. 6 f.

5—1. VI'OLA. 80. Viol. f. ton—. cat—.

[* According to Le Conte.]

1. *Acaulescent, or with a subterranean stem.*

cuculla'ta, W. (common blue violet. O. p. b. M. ♃.) glabrous: leaves cordate, somewhat acuminate, crenate-dentate: autumnal ones largest, very exactly reniform: peduncle somewhat 4-sided, longer than the leaves: divisions of the calyx subulate acuminate, emarginate behind or very entire: petals (as in many American species) oblique, veiny, very entire, white at the base, upper one generally naked, glabrous, lateral ones bearded, and with the upper one, marked with a few blue lines. Var. *papilionacea*, Ph. (2) petioles and peduncles longer: leaves sub-lance-ovate: beards of the lateral petals often yellow. Var. *tetragona*, (L.) peduncles strong, exactly 4-sided: petals azure color, veinless. Var. *villosa*, (3) leaves, petals and peduncles villose. 4—8 i. *S.* Mch.

palmata, L. (hand leaved violet. W. p-b. ♃.) mostly villose: leaves heart-reniform, palmate-5—7-lobed: lobes polymorphous, often narrow and gashed, middle one always larger: sometimes villose both side, sometimes only beneath, often glabrous, all of them very often purple beneath: the first spring ones are ovate, entire: petioles sub-emarginate: peduncles somewhat 4-sided, larger than the leaves: divisions of the calyx lance-ovate, ciliate, very entire behind: petals all very entire, veiny, and white at the base; upper ones narrower, smaller, sometimes villose at the base, yet often naked, glabrous; lateral ones densely bearded, and with the upper one, marked with a few blue lines. One variety has white flowers. 3—6 i. *S.* Le Conte. P. C. W. T. V. B. F. O. N.

sororia, W. (4) (W. b-p. M. ♃.) leaves thickish, flat, appressed to the earth, orbicular and round-ovate, cordate, crenate; sinus at the base often closed, villose above, with the hairs erect, beneath glabrous, and generally becoming purple; petioles short, strong, with small stipules at the base: peduncle somewhat 4-sided, of the length of the leaves: divisions of the calyx short, subulate, obtuse, glabrous, very entire behind: petals obovate, short, all very entire, veins white at the base, upper and lateral ones bearded, and marked with a few blue lines. Dry woods. *S.* Le Conte. W. T. P.

sagittata, A. (W. b-p. Ap. ♃.) glabrous or a little pubescent: leaves oblong, acute, cordate-sagittate and incised at the base: stigma depressed, margined: inferior petals glabrous, the rest bearded. Var. *ovata*, villous, leaves ovate, somewhat cordate, crenate, often lacerately toothed at the base; petiole margined. V. allegha-

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Villarsia. In honor of M. Villars, Prof of Botany at Strasburgh.

Vinca. Originally *pervinca*, in Anglo-Saxon, *perwince*, said to be derived from *vincio*, to bind, from the branches being used to make bands.

Viola. Lat. *viola*, of Gr. *ion*, the name of this beautiful plant.

(1) trachysperma, E. Menyanthes trachysperma, Mx. (2) obliqua, Sz. & T. (3) species of Ph. 4) asarifolia, Sz. Selkirkii? Goldie. (5) villosa, N. var. cordata, T. cordifolia, Sz. and Dc.

* See *diagnoses vialae* in Addenda.

miensis and V. ovata of 7th edition. Var. *emarginata*, glabrous: leaves almost triangular, lacerately toothed near the base: petals emarginate or bidentate. V. emarginata, 7th edition. P. Y. B. C. F. N. Hudson. Mch.

blanda, W. (smooth violet. W. w. Ap. .) glabrous: leaves round, sometimes subovate, cordate, crenate, appressed to the earth, sometimes with a few scattering hairs above; petioles pubescent: peduncles somewhat 4-sided, longer than the leaves: divisions of the calyx lanceolate, obtuse: petals all very entire, green at the base: upper and lateral ones rarely sub-villose, marked with a few blue lines. Flowers odorous. Wet. 2—4 i. S. Le Conte. C. B. P. O. F. N. Hudson's **Bay. Mch.**

primulifolia, L. (2) (W. w. J. ♃.) stoloniferous, glabrous: leaves oblong or oblong-ovate, sub-cordate, acutish, crenate, decurrent into the petiole, nerve sometimes sub-villose beneath: peduncle somewhat 4-sided, longer than the leaves: divisions of the calyx lanceolate, obtuse: petals all very entire, green at the base: upper and lateral ones sometimes a little villose, marked with a few blue lines, in the upper one often obsolete. Var. *villosa*, leaves very green: and with the petioles densely villose, becoming hoary. Flowers odorous. Wet. S. Le Conte. B. C. N. **Georgia.**

lanceolata, L. (W. w. Ap. ♃.) glabrous: leaves (sometimes with a few scattering hairs) lanceolate, narrow, elongated, gradually attenuated into the petioles at the base, obtusish, crenate: peduncles somewhat 4-sided, reddish, of the length of the leaves: divisions of the calyx lanceolate, acute: petals all very entire, green at the base; lateral ones sometimes a little villose at the base, and with the upper one marked with a few blue lines. Flowers odorous, small. Wet. 3—8 i. S. W. **Y. C. P. B. D. F. N. Florida.**

rotundifolia, Mx. (O. w. M. ♃.) glabrous: leaves thickish, appressed to the earth, broad ovate or orbicular, cordate, crenate: nerves pubescent beneath; sinus closed: peduncle somewhat 4-sided, as long as the leaves: divisions of the calyx oblong, obtuse: petals sometimes emarginate: upper one small: lateral ones somewhat bearded, and with the upper one marked with a few yellowish-brown lines; spur **very short. Woods. 1—3 i.**

pedata, L. (W. M. p-b. ♃.) glabrous: leaves sometimes ciliate, variously divided, very often pedately 9 parted; divisions linear and obtusely lanceolate, generally 3 lobed at the apex, often simply lanceolate, with the apex, 5 to 7-lobed: peduncles somewhat 4-sided: divisions of the calyx lanceolate, acute-ciliate, emarginate behind: petals all white at the base, veinless, very entire, very glabrous, naked; upper one truncate and marked with a few very blue lines, sometimes obsolete. Var. *velutina*, has the two lower petals of a very deep violet color, and appears like velvet. Var. *alba*, has white flowers. Dry. 3—4 i. S. T. Y. C. P. B. H N. **Florida. Mch.**

palustris, L. (p.) leaves reniform-cordate: stipules broadly-ovate, acuminate: stigma margined: sepals ovate, obtuse: capsule oblong, triangular: seeds ovate, dark green. **New Hampshire. Oregon. Rocky Mts.**

langsdorffii, Fischer. ( ) leaves roundish-cordate, nearly glabrous: stipules ovate, setaceously acuminate, the lowest ones with bristly teeth: stem at length elongated, oblique at the base: interior petals somewhat rhomboidal: spur broadly saccate, **very obtuse. Unalaschka.**

longipes, N. (b.) glabrous or slightly pubescent: stem short, somewhat decumbent: leaves ovate-cordate, obtuse, more or less decurrent at the base, repandly crenate: stipules linear-lanceolate, remotely spinulose-denticulate or lacerately ciliate: peduncles elongated: stigma slightly rostrate, slender, papillose: spur produced, **obtuse. Oregon. Rocky Mts.**

adunca, Smith. (p-b.) stem ascending, somewhat simple: leaves ovate and cordate-ovate, coriaceous, crenate, covered with distinct brown dots: stipules lanceolate, acuminate, dentate-ciliate: stigma somewhat reflexed, glabrous: sepals linear-lanceolate: petals scarcely longer than the spur, two of them bearded, peduncles **much longer than the leaves.' N. W. Coast.**

linguaefolia, N. (y.) pubescent: stem scarcely any: leaves oblong-lanceolate, somewhat serrate, on very long petioles: bracts of the peduncles minute: stigma thick and clavate, with scarcely any beak: sepals long and narrow, linear: petals linear-**oblong, somewhat emarginate. Oregon.**

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(1) variety of the lanceolata, Ph. 'acuta, Bw.

praemorsa, Dougl. (y.) hirsute or very pubescent: stems erect, short: leaves ovate-lanceolate, repandly denticulate or nearly entire: stipules lanceolate, entire: stigma clavate-capitate, conspicuously pubescent above, minutely beaked: petals obovate; spur very short: peduncles longer than the leaves. Oregon.

sarmentosa, Dougl. (y.) stems creeping, filiform: stolons floriferous: leaves cordate, with the sinus open, crenate, somewhat pubescent above, glabrous and punctate beneath: style rather slender: appendages of the anthers somewhat produced: peduncles about as long as the leaves: spur very short. Oregon. N.W. America.

glabella, N. (Ap. y.) nearly glabrous: stem erect, naked below: leaves reniform-cordate, with a short acumination, crenately serrulate: stipules very small, membranaceous, nearly entire: sepals linear-lanceolate: spur very short, slightly saccate. Oregon.

2. *Caulescent.*

canadensis, A. (W. A. r. w. y. M. ♃.) glabrous: stem sub-simple, terete: stipules entire, membranaceous, oblong sub-ovate or lance-ovate: leaves alternate, ovate, cordate, sub-acuminate, dentate: peduncle somewhat 4-sided: bracts small, subulate: flowers regular: divisions of the calyx subulate, acute, very entire behind: petals white, all very entire, veiny, becoming yellow at the base; lower ones pale-violet; upper one broad, expanding, glabrous, naked: lateral ones bearded, and with the upper one marked with a few blue lines: stigma short, pubescent, scarcely beaked: spur very short. Flowers odorous: stem often 2 feet long, flowering through the summer. Moist woods. 6 i.—2 f. *S.* T. B. C. O. V. Mch.

rostrata, M. (beaked violet. O. b-p. M. ♃.) glabrous: stems many, ascending, terete: leaves orbicular and ovate, cordate, crenate-dentate, sometimes with a few scattering hairs; younger ones cucullate: petioles much longer than the leaves: stipules linear, acuminate, furnished with elongated linear teeth: peduncles filiform, somewhat 4-sided, slender, axillary, very long: bracts minute, subulate: divisions of the calyx lanceolate, acute, entire behind: petals all very entire, veinless, naked, beardless; upper and lateral ones marked with a few blue lines; spur straight, elongated, linear, compressed, obtuse, double the length of the petals. Root woody, perpendicular and fibrous. Var. *barbata*, lateral petals bearded. Moist woods. 6—10 i. *S.* Mch.

muh'lenbergia'na, Gengin. (1) (slender violet. W. b-p. M. ♃.) glabrous: stem terete, weak, sub-prostrate: leaves reniform, roundish, cordate: upper ones ovate, crenate, often purplish beneath; younger ones cucullate: petioles longer than the leaves: stipules large, lanceolate, serrate ciliate, sub-pinnate: peduncles somewhat 4-sided, axillary, longer than the leaves: bracts minute, subulate: divisions of the calyx linear, acute, sub-ciliate: petals all very entire, veinless; upper one naked, glabrous; lateral ones bearded, and with the upper one, marked with a few blue lines: spur porrected, compressed, very obtuse: stigma ciliate behind; beak ascending. 3—6 i. *S.* T. P. C. O. Mch.

striata, A. (2) (striped violet. W. y-w. J. ♃.) glabrous: stem oblique, branching, angular: leaves roundish and ovate, sub-acuminate, crenate-dentate, sometimes sub-pubescent; petioles long: stipules large, oblong lanceolate, dentate-ciliate: peduncles 4-sided, longer that the leaves: bracts largish, linear: divisions of the calyx lanceolate, acuminate, ciliate, emarginate behind: petals all very entire: upper one marked with a few blue lines, naked, glabrous rarely a little villose; lateral ones bearded: lower one sometimes a very little villose; spur sub-porrected: stigma pubescent behind. 6 i. rarely 2 f. Le Conte. W. P. C. K. N. Catskill. Mch.

pubescens, A. (3) (yellow violet. O. y. ♃) villose-pubescent: stem simple, erect, terete, leafless below: leaves broad-ovate, cordate, dentate; petioles short: stipules large, ovate, dentate: peduncles 4-sided, shorter than the leaves: bracts subulate, minute: divisions of the calyx lanceolate: petals all very entire, veinless; upper one naked, glabrous: lateral ones bearded, and with the upper one, marked with a few blue lines; lower ones often becoming reddish outside; spur short, gibbose, acutish: stigma pubescent, scarcely beaked. Varies in pubescence: leaves are even found glabrous: the capsules are also glabrous or woolly. 4—12 i. rarely 4 f. *S.* Mch.

hastata, Mx. (halbert violet. y. M. ♃.) glabrous: stem simple, erect, terete: leaves ovate, dilated, acuminate, cordate, dentate; upper ones lance-ovate, hastate and deltoid; petioles short: stipules ovate, dentate: peduncles somewhat 4-sided, shorter than the leaves: bracts very small, subulate: divisions of the calyx lance-linear, sub-dentate: petals all very entire, veinless; upper ones naked, glabrous; lateral ones bearded, and with the upper ones, marked with a few blue lines; lower one often becoming reddish outside: spur short, gibbose, acutish: stigma pubescent, scarcely beaked: capsule glabrous or pubescent on all sides. Var. *gibba*, (1) has no deltoid or hastate leaves.

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(1) uliginosa, variety asarifolia, M. debilis, Sz. Ph. N. &c. canina, Wr. muhlenbergii, T. (2) ochroleuca, Sz. T. &c. repens, Sz. (3) pennsylvanicum, Mx. eriocarpa, Sz.

selkirkii, Ph. (A.) leaves cordate, crenate-serrate, a little pilose: petals beardless; spur long, thick, very obtuse. Montreal.

tricolor, (2) (garden violet, heartsease, pansy. W. p. y. b-p M. ♃.) stem angular, diffuse, divided: leaves oblong, deeply crenate: stipules lyrate-pinnatifid. N.

Exotic.

odorata, (sweet violet. b. M. ♃.) stemless: scions creeping: leaves cordate, crenate, smoothish: calyx obtuse: two lateral petals with a bearded or hairy line.

Southern.

septemloba, Le Conte. (3) (p. March. ♃.) stemless, very glabrous, shining: leaves sub-succulent, ovate, cordate, dentate: lower ones entire, the rest pedate, 7-lobed; intermediate lobe larger: peduncles somewhat 4-sided, longer than the leaves: divisions of the calyx lanceolate, very entire behind: corol large; petals all very entire, veiny, white at the base: upper ones large, villose at the base; lateral ones densely bearded, and with the upper ones, marked with a few blue lines. Flowers often two inches in diameter. A variety has white flowers. Often 8 i.

villosa, Wr. (p-b. March. ♃.) stemless, pubescent (not villose:) leaves flat, appressed to the earth, round-ovate and ovate, obtuse, cordate, dentate-crenate, livid-green; veins darker, sometimes purplish, often purplish beneath; sinus of the roundish ones nearly closed; petioles short: peduncle 4-sided, longer than the leaves: petals all very entire, generally villose: (lower one sometimes glabrous:) lateral ones bearded, and with the upper ones, marked with a few blue lines. After flowering the leaves become glabrous. Florida.

nuttallii, Ph. (W. y. M. ♃.) glabrous: stem simple, erect, terete, leafy: leaves lance-ovate, obscurely dentate or very entire, attenuated at the base: stipules long, lance-linear, entire: peduncles somewhat 4-sided, shorter than the leaves: bracts minute: divisions of the calyx lance-linear, acuminate, very entire behind: petals all very entire, veinless: lateral ones bearded and with the upper ones, marked with a few blue lines: spur short: stigma pubescent, scarcely beaked. 4—6 i.

radicans, Dc. (♃.) rootlets horizontal, fibrous: stigma short-beaked, margined: leaves lance-ovate, abruptly attenuate at the base, or sub-cordate, serrate: stipules linear, setaceous-subulate, setose-serrate: divisions of the calyx linear, acute: scarcely spurred. Flowers minute: middle petals obovate.

delphinifolia, N. (b. March.) minutely pubescent: leaves pedately 7—9-parted; segments linear, 2—3-cleft: stigma thick, distinctly rostrate: the 2 superior petals pubescent; the 3 inferior emarginate; spur saccate short. Missouri.

chrysantha, H. (p. y.) somewhat pubescent: stems cespitose, short: leaves bi-pinnatifid: segments linear: sepals ciliate: inferior petals without a spur. California.

ocellata, T. & G. (p. y.) pubescent: leaves on very long petioles, cordate-triangular, crenately toothed: stipules lanceolate, somewhat ciliate: peduncles shorter than the leaves: sepals linear: petals oblong-obovate; spur very short: appendages dorsal, winged, not produced at the base. California.

pedunculata, T. & G. (y.) somewhat pubescent: stem short: leaves rhombic-ovate, crenately toothed, abruptly narrrowed at the base into a petiole: stipules linear-lanceolate, entire: stigma somewhat triangular, emarginate: spur very short: appendages of the inferior stamens wing-form, a little produced at the base. California.

tripartita, E. (y.) hirsute: stem simple, leafy only at the summit: leaves deeply 3-parted; the lobes lanceolate, toothed. 1 f. Georgia. T. *hastata*, Var. *tripartita*, 7th edition.

Viola, IONIDIUM.

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(1) striata, Sz. gibba, R. (2) Melanium, Dc. (3) palmata, variety vulgaris E.?

10—1. VIRGIL'IA. 93. Legu. asc. emo.

Southern.

lutea, Mx. (A. y. J. ♄.) leaves pinnate; leafets alternate, ovate, short acuminate, glabrous: racemes elongated, pendulous: glumes petioled, flat. The bark affords a yellow dye.

20—4. VIS'CUM. 58. Lora. ast.

verticillatum, (1) (misletoe. W. g-w. J. ♄.) branches opposite and whorled: leaves wedge-obovate, 3-nerved: spikes axillary, a little shorter than the leaves. Berries yellowish-white. On the branches of old trees. This, Smith says, is the golden bough of Virgil, and the sacred plant of the Druids. 1—2 f. *S.* P.

Southern.

rubrum, W. (♄.) leaves lance-obovate, obtuse: spikes axillary whorled.
purpureum, W. (♄.) leaves obovate, obtuse, obsoletely 3-nerved: spikes axillary: flowers opposite.

5—1. VI'TIS. 72. Vite. f. ref. vin. sug.

Remark. All the North American species of grape are polygamous or diœcious.

labrusca, (2) (plum grape. w-g. J. ♄.) leaves broad-cordate, lobe angled, white downy beneath: fertile racemes small: berries (blue, flesh-color, and green) large. Var. *labruscoides*, (fox grape.) has smaller fruit, approaching a tart taste. *S.* T. Y. C. P. B. F. N. Catskill. Canada.
vulpina, (3) (frost grape. O. w-g. J. ♄.) leaves cordate, acuminate, gash-toothed, glabrous both sides; nerves and veins pubescent: racemes lax, many-flowered: berries small. Leaves very variable; but the uppermost mature leaves will agree with the description. *S.* Canada.
æstivalis, Mx. (4) (summer grape. w-g. J. ♄.) leaves broad-cordate, 3 to 5-lobed: in the young state rust-downy beneath: fertile racemes oblong: berry small. Var. *sinuata*, leaves sinuate-palmate, coarsely toothed. *S.* N. P. F. Y. C. B. Mch.
rip'aria, Mx. (5) (odoriferous grape. w-g. M. ♄.) leaves unequally gash-toothed, shortly 3-cleft, pubescent on the petioles, nerves and margins. *S.* P. M. O. Y. D. Mch.
cordifolia, Mx. (J.) leaves cordate, acuminate, somewhat equally toothed, glabrous on both sides: racemes loose, many-flowered: berries small. 10—20 f. Canada. *S.*

Southern.

bipinnata, T. & G. (g-w. J. Ju.) leaves bipinnate, glabrous: leafets incisely serrate: flowers pentandrous: berry 2-celled: cells 1 to 2-seeded. Virginia to Georgia, west to Arkansas. *Ampelopsis* bipinnata of 7th edition.
incisa, N. (Ju g. ♄.) leaves trifoliolate, thick and somewhat fleshy: leafets incisely toothed or lobed, cuneate at the base: flowers tetrandrous and tetrapetalous: berry globose-obovate, 1-celled, 1-seeded. Texas and Arkansas.
indivisa, H. (W. ♃. J.) leaves simple, cordate or truncate at the base, somewhat 3-nerved, pubescent on the nerves beneath: flowers pentandrous and pentapetalous: berry 1-celled, 1—2-seeded. Swamps. Southern States west to Louisiana and Arkansas. *Ampelopsis cordata*, 7th edition.

Vitis, AMPELOPSIS.

Virgilia. In honor of the great Latin poet Virgil, who discoursed on plants in the eclogues.

Viscum. Lat. *viscum*, from the Gr. *ixos*, Ael. *biscos*, birdlime, the name for this plant.

Vitis. The Lat. name; from the Celtic *gwyd*, (pronounced *wyd*.)
(1) flavescens, W. album, Wr. (2) taurina, Wr. (3) cordifolia, Mx.
(4) intermedia, M. labrusca, Wr. (5) odoratissima, Donn.

21—1. VITTA'RIA. 5. Fili. sec-stim.

Southern.

lineata, (1) (♃.) frond linear, very long, pendulous: fruit dots solitary within the margin. The leaves are grass-like. Ph

W.

14—2. WARÉ'A. 63. Cruc. asc. dia.

Southern.

cuneifolia, N. (w.) leaves nearly sessile. rather thick, oblong, obtuse, attenuate at the base: siliques with the valves somewhat convex. 1—2 f. Georgia, Florida.

amplexifolia, N. (p. ☉.) leaves oblong-ovate, half-clasping! silique two-edged, pendulous. 1 f.

6—6. WENDLAN'DIA. 77. Meni. ton. diu.

Southern.

populifolia, (w. J. ♄.) stem climbing: younger branches pubescent, striate: leaves alternate, petioled. cordate. ovate. mucronate, entire, veined, glabrous above, pubescent beneath. This plant has hitherto escaped the researches of all our botanists. E.

3—2. WINDSO'RIA. 10. Gram. far. ton.

seslerioides, Mx. (2) (red-top. W. Au. ♃.) panicle spreading and flexuous: spikelets all peduncled, about 6-flowered, lanceolate: lower palea ovate, 5-toothed. 3—5 f. S. P. C. O. M.

Southern.

ambig'ua, E. (3) (S. ♃.) panicle spiked, spreading: spikes ovate, thick, sessile, 5—6-flowered: outer palea mucronate. 2 f.

Windsoria, POA.

Wistaria, PHASEOLUS.

21—1. WOOD'SIA. Br. 5. Fili. sec-stim.

hyperbo'rea, (4) (flower cup fern. Ju. ♃.) frond pinnate; leafets 3-parted, or gash-pinnatifid, wedge-form. obtuse, toothed, rough-haired beneath: fruit-dots solitary, at length confluent. Small, in tufts. P. Canada. T.

ilvensis, (5) (Ju. ♃.) frond bipinnatifid; divisions oblong, obtuse; lower ones repand; upper ones entire, rough-haired beneath: fruit-dots sub-marginal, at length confluent: stipe villose above. Small. B. T. Canada. Fairhaven, Vt.

21—1. WOODWARD'IA. 5. Fili. sec-stim.

angustifolia, S. (6) (kidney fern. Au. ♃.) barren frond pinnatifid; divisions lanceo-

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Vittaria. Lat. *vitta*, a fillet, alluding to the shape of the frond.
Warea. In honor of N. A. Ware, Esq.
Wendlandia. In honor of M. Wendland, royal gardener at Herrenhausen.
Windsoria. In honor of John Windsor, an English botanist.
Woodsia. In honor of Joseph Woods, an excellent Engish botanist.
Woodwardia. In honor of Thos. J. Woodward, an excellent English botanist.

(1) angustifrons, Mx. Pteris, L. (2) poaeformis, N. Triscuspis, Ph. Poa, Mx. quinquefida, Ph. flava. L. subverticillata, P. (3) Poa, E. (4) Polypodium, W. arvanicum, S. Acrostichum, Bolton. (5) Polypodium, W. Acrostichum, L. (6) onocleoides, W. Onoclean oduloso, Mx. Acrostichum areolatum, L.

late, repand, slenderly serrulate; fruit-bearing frond pinnate; leafets entire, acute, linear. About a foot high. *S.* B. T.

virginica, (1) (Ju. ♃.) frond very glabrous, pinnate; leafets sessile, lanceolate, pinnatifid; divisions oblong, obtuse, crenulate; fertile ones elongated: stipe glabrous, terete. About a foot high. *S.* Y. B. C. O. V. Mch.

Southern.

thelipteroides, Ph. (Ju. ♃.) frond pinnate; wing leafets sessile, villose at the base, lance-linear, pinnatifid; sterile ones oblong, obtusish: fertile ones short-triangular, acute; all very entire: stipe pubescent, angled. 6 i.

17—3. Wye'thia. 55. Heli. ole. sto.

helianthoides, N. (y. ♃.) root large and somewhat tap-shaped: stem and involucre shortly pilose: stem terminated by one large, helianthoid flower: leaves alternate, rather narrow-lanceolate, entire, petioled, acute, somewhat pubescent: involucre divisions numerous, lance-linear, acute and conspicuously ciliate: rays large. R.

X.

19—5. Xanthium. 55. Ambr. eme.

strumarium, (2) (clott-bur, sea burdock. W. Au. ☉.) stem unarmed, branching: leaves cordate, lobed, serrate, scabrous, 3-nerved at the base: fruit oval, pubescent, with stiff hooked bristles. Has a little the habit of a burdock. 2—3 f. *S.* T. Y. C. N. V. B. P. O. F. Mch.

orienta'le, (3) (☉.) stem unarmed: leaves wedge-ovate, sub-3-lobed: fruit in strobiles. Y.

spinosum, (prickly clott-bur. Ju. ☉.) having spines in threes: leaves 3-lobed. Lower leaves sinuate-lobed. 1—3 f. *S.* Newburgh. M. S—C.

20—5. Xanthox'ylum. 94. Xant. aro—. stim+. stom. *rheu.*

fraxineum, W. (4) (prickly ash. tooth-ache bush. O. g-w. M. ♄.) prickly: leaves pinnate; leafets lance-oval, sub-entire, sessile, equal at the base: umbels axillary. 8—12 f. *S.* Mch.

tricarpum, Mx. (L. J. ♄.) leaves pinnate, very glabrous: leafets petioled, lance-falcate, crenate-serrate; petioles unarmed: flowers with corols: capsules about in threes. Both species are aromatic and pungent. 12—20 f. *S.* Canada. Carolina.

5—12. Xanthorhi'za. Ranu. b. & w. bit-ton. stom: dysp.

apiifolia, L. Her. (parsley yellow-root. Ap. ♄.) stem simple: leaves 3-ternate; petioles dilated and clasping at the base: racemes below the leaves, compound. 1—3 f. *S.* P. S—C.

6—3. Xerophyl'lum. 13. Mela. asc. r. acr.

asphodeloi'des, (5) (w. J. ♃.) filaments dilated towards the base and equalling the corol: racemes oblong, crowded: bracts setaceous: scape leafy: leaves setaceous-subulate. 3—5 f. *S.* Y.

Southern.

tenax, Ph. (6) (W. w. J. ♃.) scape leafy: raceme showy, lax: bracts membranace-

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Wyethia. In honor of Mr. Wyeth, a traveller across the Rocky Mts. and along Columbia River, &c.

Xanthium. Gr. *xanthos*, yellow, because it was used to die the hair yellow.

Xanthoxylum. Gr. *xanthos*, yellow, and *zulon*, wood; so named from its color.

Xanthorhiza. Gr. *xanthos*, yellow, *riza*, root; in allusion to the color.

Xerophyllum. Gr. *xeros*, dry, and *phullon*, leaf, its leaves appear as if withered.

(1) banisteriana, Mx. Blechnum, L. (2) americanum, Wr. (3) maculatum, R. (4) ramiflorum, Mx. Clavaherculis, L. (5) setifolium, Mx. Helonias, L. (6) Helonias, Ph.

ous: petals oval: filaments filiform, exceeding the corol: leaves subulate-setaceous, very long.

gramineum, (1) (A. Au. ♃.) scape leafy, panicled, racemes divaricate: branchlets ovate, longer than the pedicels: petals oblong, acuminate, thrice as long as the stamens: leaves linear, channelled, glaucous beneath. 2 f.

5—1. XYLOS'TEUM. 58. Capr. r. cat—.

ciliatum. Ph. (2) fly-honey-suckle, twin-berry. w-y. M. ♄.) berries distinct: leaves ovate, and sub-cordate, margin ciliate, in the young state villose beneath: corol a little gibbous or calcarate at the base: tube ventricose above; divisions short, acute: style exsert. 3—4 f. T. C. O. N. V. Mch.

solonis. Ea. (3) swamp twin-berry. y. M. ♄.) berries united in one, biumbilicate (never distinct:) two flowers situated on one germ: leaves oblong-ovate, villose. Berries dark-purple. 2 f.* W. O. New Hampshire. Pttsfield, Mass.

villosum, Mx. (.) (branches villose: leaves oblong-oval, obtuse, sub-tomentose, very villose: peduncles short: (berries distinct, Ph. sed quere.) Berries blue. Perhaps a variety of the foreign vulgare Ph. W. N. White Mts.

oblongifolium. Goldie. (4) (y.) stem erect: leaves oblong or oval, beneath chiefly velvety-pubescent: peduncles elongated, erect, also fructiferous: bracts obsolete: tube of the hirsute corol gibbous at the base and upwards; limb unequal, deeply bilabiate; upper lip 4-toothed: lower lip sub-entire: berries united in one, globose, biumbilicate. Montreal, N. York.

involucrata, Banks. ( ) branches acutely 4-angled: leaves ovate or oval, petioled, sub-membranaceous, appressed pilose beneath: peduncles axillary 2—3-flowered: bracts 4, 2 exterior ones ovate, interior ones broadly obcordate, at length enlarged, pubescent-glandulous: corol pubescent without, gibbous at the base: style exsert. A. R.

3—1. XY'RIS. 13. Xyri. fod—. far—.

caroliniana. W. (5) (yellow-eyed grass. yellow-flowering-rush. W. y. Au. ♃.) leaves linear, grass-like: stem or scape 2-edged: head-ovate-acute: scales obtuse. 9—18 i. S. T. Y. B. N. C. P. Mch.

brevifolia. Mx. (y. Au. ♃.) leaves sword-subulate, short: calyx longer than the bracts, somewhat gash-toothed. 12 i. S. T. Y. P. S—C.

Southern.

fimbriata, E. (J. ♃.) heads lax-imbricate: calyx much longer than the bracts, fimbriate: leaves long ensiform. 2 f.

juncea, Bald. (M. ♃.) leaves terete, hollow, acute: scape terete, sheathed at the base: bracts roundish: head oval. 6—12 i.

indica, W.? (y. J. ♃.) leaves very long, grass-like, tortuous: scape tortuous: head globose: scales roundish, obtuse.

Xylosteum. Gr. *xulon*, wood, and *ōstéon*, bone, alluding to the hardness of the wood.

Xyris. Gr. *xuros*, pointed or sharp, from the termination of its leaves.

(1) Helonias. Ph. (2) tartaricum, Mx. Lonicera ciliata, M. (3) Hooker calls this the coerulea of Europe. Sed quere? Hk. p. 283. (4) Hooker says this is the plant from the wetern part of N. Y.; not my X solonis. (5) jupicai, Mx. flexuosa, M.

* This plant was dicovered in New Hampshire, by Dr. Solon Smith, of New Haven, Ct. in the year 1815. I published it in 1817. Professor Dewey found it near Williams College the same year. I found it in Pittsfield, Mass. three years afterwards. It has since been published under the name *villosum*, by several botanists; but I know not on what authority. No one pretends to have seen Michaux's plant; and his description of the villosum, if intended for this plant, is defective without a parallel in his work. As well might a botanist claim all future discoveries in the genus Acer, if he had once said that the maple tree had a woody stem. It may have been seen by Michaux; but surely it will be in season to deny Dr. Smith's discovery, and my name, after we receive some evidence of it.

Y.

6—1. Yuc′ca. 14. Lili. dem—. emo.

Southern.

filamentosa, (silk-grass. bear-grass. w. Au. ♃.) stemless: leaves broad-lanceolate, entire, filamentose on the margin: stigmas recurved-spreading. 2—5 f. M. S—C.

angustifolia, Ph. (W. w. Ju. ♃.) stemless: leaves long linear, glaucous, mucronate, somewhat filamentose on the margin: capsules large, oblong-obovate.

recurvifolia, Sy. (p-w. Ju. ♄.) caulescent: leaves lance-linear, recurve-deflected, rarely filamentose on the margin: inner petals broadest. 3 f.

gloriosa, (petre. L. w. Au. ♄.) caulescent, branching: leaves broad-lanceolate, plaited, very entire: petals lanceolate. 2—4 f.

alnifolia, (1) (L. w. Au. ♄.) caulescent, branching: leaves lance-linear: with callous crenatures, rigid. 10—12 f.

Z.

20—12. Za′mia. 100. Cyca. amy. dem.

Southern.

integrifolia, W. (2) (♄.) frond pinnate: leafets lanceolate, roundish-obtuse, attenuate at the base, serrulate on the outside towards the apex: stipe glabrous, somewhat 4-cornered.

19—1. Zanichel′lia. 7. Fluv. ton—.

intermedia, T. (false pond-weed.) anther 2-celled: stigmas dentate-crenate: carpels smooth, entire on the back. In salt marshes.

palustris, (Ju. ☉.) anthers 1-celled: stigmas entire: carpels toothed on the back. C.

Zanthorhiza, Xanthorhiza.

13—2. Zapa′nia. 40. Verb. aro. cata.

nodiflora, Mx. (3) (fog fruit. W. w. Ju. ♃.) leaves wedge-obovate, serrate above: spikes head-conic, solitary, long-peduncled: stem creeping. *S.* P. H. K. D. Harper's Ferry. New Orleans.

lanceolata, (4) (W. w. Ju. ♃.) leaves lance-linear, sharply serrate: spikes head-conic, solitary, long peduncled: stem creeping. *S.* P.

cuneifolia, T. (W.) stem herbaceous, procumbent? somewhat scabrous: leaves narrow wedge-form, thick, nearly glabrous, sharply and coarsely toothed towards the apex: bracts wedge-obovate, dilated at the apex, mucronate: little heads solitary, globe-ovate, long-peduncled.

19—3. Ze′a. 10. Gram. far. ton.

Southern.

mays, (indian corn. y-g. Ju. ☉.) leaves lance-linear, entire, keeled. Var. *precox*, (dwarf corn) stem low; kernel mostly 8-rowed.

5—3. Zigade′nus. 13. Mela. asc. ase.

glaberrimus, Mx. (zigadene. W. w. J. ♃.) scape leafy: bracts ovate, acuminate: petals acuminate: leaves long, recurved, channelled. P. Near Rochester, N. Y. 2—4 f. S.

Yucca. Yuca or yucca, the original Indian name.

Zamia. Gr. *zemia*, damage, or loss, referring to the staminate aments not producing any seed.

Zanichellia. In honor of J. J. Zanichelli, an eminent botanist at Venice.

Zapania. In honor of Paul Anthony Zappa, an Italian botanist.

Zea. Gr. *zea*, a kind of grain, said to be from *zaō*, to live.

Zigadenus. Gr. *zugos*, a yoke, and *adēn*, a gland, alluding to the two glandular depressions in each petal.

(1) draconis, E. (2) pumila, L. (3) Lippia, Mx. Verbena, L. (4) Lippia. M.

Southern.

elegans, Ph. (W. w. J. ♃.) scape nearly naked: bracts linear: petals ovate, acute.

Zigadenus, MELANTHIUM, HELONIAS.

17—2. ZIN'NIA. 55. Heli. ole. sto.

Exotic.

violacea, (blood marygold. r. Ju.) leaves ovate, acute, sessile sub-crenate: apex of the chaff or scales fimbriate-serrate.

elegans, W. (p. J. ⊙.) heads stalked: leaves opposite, cordate, ovate, sessile, clasping: stem hairy: scales serrate. 2 f. Mexico.

Southern.

multiflora, (W. r. S. ⊙.) leaves opposite, lance-ovate, sub-petioled: flowers peduncled. Perhaps not a native of North America.

19—6. ZIZA'NIA. 10. Gram. far. ton.

aquatica, Ph. (1) (water oats, wild rice. W. Au. ⊙.) panicle pyramid-form; staminate flowers below, spreading; pistillate flowers above, spiked: pedicels clavate: flowers long-awned: kernel long, cylindric, becoming black. Very abundant in the great western lakes. Schoolcraft. 4—8 f. S. P. Y. T. B. N. C. Lake Erie, and Ontario. Oswego River. Mch.

miliacea, Mx. (W. Au.) panicle effuse, pyramidal: glumes short-awned: staminate and pistillate flowers intermixed: kernel ovate, smooth: leaves glaucous: style one. 6 f. S. P. C.

Zizania, HYDROCHLOA.

5—2. ZI'ZIA. Dc. (2) 60. Umbe. poi.

aurea, (2) (meadow parsnip, alexanders. O. y. J. ♃.) leaves biternate; leafets lance-oval: umbels with short peduncles. Some of the leaves are often quinate. 1—2 f. S. Mch.

integerrima, (2) (O. y. J. ♃.) very glabrous: leaves sub-glaucous: lower ones thrice-ternate; upper ones twice; leafets oblique oval, entire: umbels with elongated peduncles. 12—18 i. S. Mch.

cordata, (2) (alexanders. O. y. J. ♃.) radical leaves round-cordate, crenate; cauline ones petioled, ternate; upper ones 3-parted: umbels with short peduncles. Mch.

16—10. ZOR'NIA. 93. Legu. f. nut. g. asc.

Southern.

tetraphylla, Mx. (y. Ju. ♃.) leaves digitate; leafets 4, lanceolate, glabrous: spikes axillary, peduncled: flowers alternate, 2-bracted: bracts roundish. 2 f. California.

19—1. ZOSTE'RA. 7. Fluv. ton—.

marina, (grass-wrack, sea-eel grass. L. Au. ♃.) leaves entire, somewhat 8-nerved: stem teretish. Leaves long: flowers minute. In bays and salt-marshes. Y. C. B.

Zinnia. In honor of M. Zinn, professor of botany at Gottingen.
Zizania. Gr. *zizanion*, darnel, which has been badly applied to the present genus.
Zizia. Gr. *zizanion*, (a troublesome weed.)
Zornia. In honor of John Zorn, a German apothecary and botanist.
Zostera. Gr. *zoster*, a girdle, alluding to the ribbon-like appearance of its long, linear foliage.

(1) clavulosa, Mx. (2) Smyrnium, Sison.

SPECIES OF THE FIVE LOWER ORDERS

OF

CRYPTOGAMIA.

See Generic description, pages 97—110.

ABBREVIATIONS, NAMES, AND GENERAL PROPERTIES, TO BE REFERRED TO FROM THE FOLLOWING DESCRIPTIONS.

[*See a description of each Order in an ascending series, at the end of the Natural Orders.*]

2. Mus. Musci. (mosses proper.) *Tonic, astringent, rarely cathartic.* Mostly feeble.
3. Hep. Hepaticae. (liverworts, succulent mosses.) *Tonic*, often *cooling* in external applications, some are *amylaceous.*
4. Alg. Algae. (sea-weed, frog-spittle, green-hair.) *Tonics, cathartics, antiseptics.*
5. Lic. Lichenes. (lichens, rhaptosious, [in patches,] fibrous or dendritic.) *Tonics* used in *dying*, rope-manufactory.
6. Fun. Fungi. (toadstools, puff-balls, mould, smut.) Feeble *tonics*, if moderately dry; *acrid* and *poison* if juicy; some are *edible.*

A.

Aci'nula. Lat. *acinus*, (little berry.) Ergot. 6. Fun.

clavus, horn-form, cylindrical, powdery; purple-black outside, white inside. In glumes of rye, and of some other grasses.

Acremo'nium. Gr. *akremon*, (branch) capsules on branches. 6. Fun.

fuscum, filaments spreading, branched, olive-brown. On dead sticks.

Acrosper'mum. Gr. *akros*, (summit) *sperma*, (seed.) 6. Fun.

cornutum, horn-form, smooth, when dry furrowed, rufous, becoming paler at the end. On putrid agarics. 1—4 i.

Actinothy'rium. Gr. *aktin*, (a ray) *thuroo*, (to enclose.) 6. Fun.

graminis, scattered or gregarious, half a line broad, dark, a little ribbed and elevated in the centre.

Aecid'ium. The old name. Red gum, &c. 6. Fun.

1. *Cespitose: receptacles aggregated in a tuft making a crust-like spot on leaves.*

cornutum, becoming yellow: receptacles very long, curved, olive-grey. Appears like saffron colored spots, on the upper sides of leaves of mountain ash, &c. 1—6 i.

cancellatum, tuberculate, chesnut-brown: receptacles at length splitting into divisions cohering at the apex. Grows on the under side of withering or dying pear leaves.

rhamni, cespitose, rose-colored: receptacles elongated, somewhat diverging, at length becoming pale. On the leaves of the rhamnus.

tussilaginis, spots purplish yellow, tufts flat; receptacles immersed. Occurs on the leaves of the colt's foot, (Tussilago farfara) is hardly prominent above the surface of the leaf.

2. *Simple: receptacles scattered: crust. which is distinct, is never conjoined.*

euphorbiae, simple, crowded: receptacles cylindric, pale; mouth reflexed, yellow with dust. On the leaves of Euphorbia maculata.
anemones, simple, scattered: receptacles cylindric, a little prominent, pale, mostly toothed: wholly filled with white dust. On the leaves of Anemone nemorosa in the spring.
punctatum. simple, scattered: receptacle sub-immersed: mouth somewhat converging; dust compact, becoming sooty-yellow. Found sometimes on leaves of Anemone.
Agaricus. From Agaria, a city in Sarmatia. Mushroom. 6. Fun.

1. *Lamellae juiceless or becoming dry; not smoke-dusty, nor sooty: stipe annulated.*

procerus, large: pileus fleshy, bossed, scaly, redish ash-colored; lamellae very remote, white: bulbous, stipe very long; ring moveable. Var. *squamosus*, pileus convex, and scaly above; lamellae pressed together outwardly from the stipe, and becoming yellow. Var. *excoriatus*, smaller, whitish: scales obsolete. Woods and fields. 13 i.
squarrosus, cespitose: pileus fleshy: pileus and stipe scaly and scurfy, rusty yellow: lamellae crowded, pale-olive. Often on roots and trunks of trees in autumn. 2 i.
polymycus, cespitose, heaped together: pileus bossed, hairy-scaled, sooty-yellow; lamellae sub-decurrent, white becoming pale: stipe annulated conic, olive-ash-colored, solid, elastic. Woods, on trunks or the earth, in autumn.
candidus, cespitose: pileus somewhat fleshy-glabrous, cinnamon-color: lemellae sub-decurrent, pale rust-colored: stipe scaly. cylindric, rather slender. On trunks in autumn.

2. *Pileus mostly fleshy; lamellae emarginate, mostly one-colored, and at length cinnamon: stipes mostly bulbous, having a veil-like volva dissolved into spider-web-like filaments.*

decolorans, pileus viscid, yellow; lamellae at first bluish-purple, at length cinnamon: stipe glabrous, sub-tuberous, white: veil-like volva rust-color.
flavidus, cespitose: pileus somewhat fleshy, yellow: the central part more obscure; lamellae distinct, one-colored, becoming yellow: stipe soft, thickening downward and becoming sooty-yellow. On trunks.
decipiens, growing in groups: pileus fleshy, acutely bossed and membranaceous near the centre, depressed; lamellae broadish, obscurely cinnamon-colored: stipe long, from white becoming reddish.

3. *Pileus fleshy, entire, convex; lamellae one-colored, becoming dry: stipe central, destitute of a ring or curtain-like volva.*

(Color of the pileus, brownish or brownish-yellow.)

pratensis, tawny-red, hardish: pileus campanulate, either obtusely bossed or flattish, glabrous; lamellae thick, distant, decurrent: stipe short, somewhat slender, tapering downwards. Among grass.
reflexus, growing in groups, rusty yellow: pileus somewhat fleshy, acutely bossed, scaly, reddish-yellow; lamellae distinct, light-cinnamon: stipe long, slender, fibrous-scaly, scales reflexed. Woods.
radicatus, pileus fleshy, bossed, viscous, rugose, sooty-purple or tawny; lamellae sub-decurrent, white: stipe very long, having a long fusi-form root. Woods. 1—2 i.
velutipes, cespitose: pileus somewhat fleshy, repand, glabrous, brown; lamellae ventricose, becoming yellow: stipe tomentose becoming dark liver-brown. Autumn.

(Color of the pileus shining, red or light yellowish-green.)

coccineus, growing in groups, scarlet all over: pileus sub-membranaceous, convex, sub-viscous; lamellae distinct, connected by teeth; stipe hollow, sub-compressed. Autumn in grass. 2 i.
conicus, pileus conic, acute, sub-viscous, light greenish-yellow: lamellae crowded, ascending, becoming yellow: stipe long, yellow. Var. *tristis*, solitary: pileus acutely campanulate, from yellowish-green becoming dark: lamellae free. 4. i.
russula, large: pileus fleshy, sub-convex, with rose-red scales: stipe rose-red, solid, short: lamellae unequal, white. 2 i.

(Color of the pileus white.)

discoideus, sub-cespitose: pileus fleshy, viscid, flattish, white; middle part yellow or somewhat rust-color; lamellae sub decurrent: lamellae and stipe middling white.

pulvinatus, pileus fleshy or rather corky, cushion-like, sub-repand, glabrous, white; middle part pale flesh-colored; lamellae crowded, decurrent, white: stipe very short, solid, hard. Woods.

4. *Small, tender; pileus mostly membranaceous, striate, pellucid, convex, permanent; lamellae becoming dry, one-colored: stipe mostly hollow, elongated, naked.*

galericulatus, cespitose, inodorus: pileus membranaceous, bossed, tawney lead-color; lamellae distinct, white: stipe smooth, rooting, strigose-haired at the base. On trunks in autumn.

hypnorum, small, very tender, rusty-yellow all over: pileus bell-form, furrowed; lamellae distant, broadish: stipe middling.

clarus, growing in groups, extremely minute: pileus somewhat fleshy, papillose, orange or red; lamellae broadish: stipe and lamellae white.

lacteus, white all over: pileus campanulate, obtuse, striate; lamellae distinct, ascending: stipe rather long, hirsute at the base.

corticola, minute, scattered, tawny: pileus hemispherical, sub-plicate: lamellae uncinate, linked together, white: stipe shortish, incurved. In crevices of bark, of wood, &c.

5. *Pileus membranaceous, fugaceous or somewhat fleshy, at length torn; lamellae at length becoming a black juice or dusty smut: stipe white, naked or annulated.*

(Membranaceous, almost wholly becoming a black juice; lamellae very thin.)

comatus, growing in groups: pileus conic, scaly, white; scales yellow; lamellae crowded or heaped together, at first white-purple: stipes very long; ring moveable.

cinereus, pileus conic, furrowed, sub-tomentose, cinerous, smooth and bluish-purple at the apex, the margin at length torn and inflexed; lamellae linear, punctate; somewhat zigzag: stipe long, scaly. Gardens and woods.

disseminatus, crowded or heaped together, small, fugaceous: pileus somewhat oval, striate plicate, at first somewhat reddish-yellow, then grey; lamellae distinct, in some measure linked together, light sooty-yellow: stipe mostly incurved.

domesticus, pileus campanulate, obtuse, undulate, sulcate, sooty; scales brand-like; lamellae crowded, linear; at first bluish-red, then brown, becoming black. On damp walls, &c. about houses.

narcoticus, pileus convex, cinereous, plicate, with distinct, bifid, dense folds; vertex entire: stipe subulate: lamellae more rare and distant, entire or halved, alternate: It diffuses a very narcotic odor.

(Somewhat fleshy: lamellae at legth becoming black-smut or soot-like, in nebulous or sooty spots.)

semiglobatus, pileus fleshy, hemispherical, sub-viscous, becoming yellow; lamellae very broad, horizontal, becoming dark-cloudy: stipe long, annulated.

papilionaceus, pileus somewhat fleshy, campanulate, sooty, becoming almost black; lamellae all attached, dark-cinerous and various, white at the margin: stipe furrowed at the apex, dark-pulverulent.

6. *Pileus fleshy or sub-membranaceous, smooth, permanent; lamellae somewhat nebulous, at length dark-stained or one-colored, sub-ramose: finally becoming more obscure and dark with seminal dust: stipe annulated or naked.*

(Pileus fleshy: stipe annulated.)

edulis, in groups, large: pileus white, smooth, or obsoletely scaly; lamellae red: stipe long, bulbous: the ring-volva manifest. This is an eatable mushroom, but not the most common.

campestris, pileus fleshy, flattish, having dark-yellow scales; lamellae becoming yellowish-red: stipe short: the ring-volva rather incomplete. This is the common eatable mushroom.

precox, somewhat in groups: pileus fleshy, hemispheric, tan-yellow, at first white; lamellae flat, thin, watery soot-yellow: stipe solid, somewhat tenaceous: ring-volva fugaceous.

latericius, cespitose, large: pileus fleshy, sub-viscous, brick-color: margin yellow; lamellae distinct, somewhat nebulose, becoming greenish-cinereous: stipe long, sub-solid: ring fugaceous becoming black.

fascicularis, small, cespitose: pileus somewhat fleshy, bossed, reddish-yellow: lamellae nebulose, becoming green: stipe hollow, slender: the curtain-like volva becoming black.

(Pileus mostly fragile, membranaceous, sub-aquose: stipe naked.)

denticulatus, slender: pileus hemispheric, livid purple: lamellae toothed at the margin: stipe hollow, sooty-yellow.

gracilis, wholly fragile: pileus membranceous, campanulate, acute, very soft; lamellae linear, becoming dark-cinerious: stipe very long, glabrous, Pileus varies to flesh-color, dark reddish-yellow, white, &c.

7. *Pileus fleshy, mostly depressed; lamellae becoming milky.*

piperatus, pileus funnel-form, expanded at the margin, glabrous, white; lamellae crowded, forked, white, becoming pale.

subdulcis, pileus funnel-form, becoming reddish-yellow; lamellae pale flesh-color; juice sweetish.

8. *Pileus fleshy, mostly depressed; lamellae of equal length, white, becoming dry: stipe naked, white.*

rosaceus, pileus convex, flat, smoothish, rose-colored or pale red; lamellae and stipe white.

9. *Pileus entire, membranaceous, mostly striate, funnel-form or umbilicate; lamellae of equal length, not becoming milky, mostly decurrent: stipe naked, central. Small.*

rotula, cespitose, white: pileus deeply furrowed; lamellae united in a tube surrounding the stipe: stipe becoming black..

androsaceus, in groups permanent: pileus flattish, sub-plicate, white, obsoletely bossed; lamellae simple, all attached: stipe becoming dark-liver-brown.

epiphyllus, in groups, minute, white: pileus membranaceous, convex, at length-sub-umbilicate; lamellae few, ramose: stipe becoming black.

campanella, in groups: pileus hemispheric, umbilicate, striate, rust-colored; lamellae decurrent: stipe hollow, chesnut-brown.

10. *Pileus fleshy, depressed, oblique, entire or halved: stipe naked, not attached to the centre of the pileus, lateral, or none.*

(Pileus entire; stipe not in the centre.)

inconstans, largish: pileus sub-tenaceous, depressed, entire or halved, lobed zigzag, somewhat reddish-yellow; lamellae sub-ramose, crisped at the base, white and somewhat shining.

(Pileus halved: stipe marginal: lamellae decurrent, diverging from the side of the pileus.)

flabelliformis, sub-stiped: pileus flattish, torn in various forms, margin crenate; lamellae three-cleft: stipe short or none.

spathulatus, erect, spathe-form: pileus pale tan color; the middle part spongy and scaly: stipe perpendicular, channelled.

mollis, in groups, soft: pileus glabrous, gibbose, pale; lamellae watery-cinnamon color.

styptacus, cespitose, pileus sub-coriaceous, emarginate, tan-color, sub-farinaceous; lamellae very thin, veiny, connected, cinnamon color: stipe compressed, ascending, dilated at the apex.

mitis, in groups, all over white: pileus somewhat fleshy, glabrous, smooth; lamellae simple: stipe horizontal, dilated at the apex.

(Pileus halved, somewhat corky.)

aineus, coriaceous, tomentose, whitish-grey: lamallae split revolute at the margin. Becoming purple-cinerious.

abietinus, sub cespitose, dark sooty-yellow: pileus glabrous, smooth; lamellae glaucous: branching in the young state.

coriaceus, coriaceous, marked with zones, tomentose, pale: lamellae sub-ramose, pale-woody.

sepiarius, coriaceous, hard, flat both sides: pileus strigose-tomentose, chesnut-brown; lamallae crowded, ramose, becoming yellow.

AGY'RIUM. Gr. *aguris*, (a crowd.) 6. Fun.

caesium, in heaps, nearly separate, convex, whitish-grey. On dead pines.

ALCYONIDIUM. Gr. *alkuoneion*, (foam of the sea.) 4. Alg.

diaphanum, branches elongated. 6 i.

ALECTORIA. Gr. *alector*, (without a bed.) 5. Lic.

jubata, thallus rounded, somewhat shining, livid-brown, very much branched; branches filiform, compressed at the axils. Apothecia of the same color, at length, convex, entire at the margin.

sarmentosa, thallus roundish, angular, somewhat pitted, dichotomous, pale yellowish: the extremities much branched, lax and slender. Apothecia rather concave, livid, pruinose, at length flattened.

usneoides, frond flat, compressed striate longitudinally, very branching, pale-white; branches fibrous: receptacles flat, of the same color, entire. On trees.

ANOECTANGIUM. Gr. *anoiktos*, (open,) *aggeion*, (a rose.) 2. Mus.

filiforme. Mx. stem slender-filiform: leaves closely imbricate, oval, denticulate in a similar-colored point: capsule ciliate at the apex: lid sub-conic: calyptre sub-villose. On rocks.

ANTHOCE'ROS. *Anthos*, (flower,) *keras*, (horn.) 3. Hep.

lævis, (wax liverwort,) frond flat, undivided, scarcely undulated at the margin. On the earth in damp shaded situations.

punctatus, frond sinuate, undivided, crisped at the margin. On the earth where moist and shaded. 1½ i.

carolinianus. Mx. fronds with sharp roundish lobes, margin sub-entire, scarcely punctured above: the horn-form capsule about half an inch in length.

ARRHENOP'TERUM. Gr. *arren*, (strong,) *pteris*, (wing.) 2. Mus.

heterostichum, erectish: leaves lax, imbricate, oval, obtuse, serrulate.

ARCY'RIA. (Gr. *orkus*, (a net,) the seeds fastened together by net-work. 6. Fun.

nutans, pale-yellow, sub-stiped, cylindrical, long, weak, drooping. On rotten wood. ½ i.

punicea, heaped or cespitose, stiped, dull red: seed abundant, crimson red. On rotten wood. ¼ i.

ARTHONIA. Gr. *arthon*, of *arieo*, (to kill, destroy.) 5. Lic.

swartziana, crust cartilagin. membr. white. Apoth. sess. broad, um. round. rep. irreg. anff. with dark elev. dots.

obscura, crust membr. somew. olive-col. Apoth. min. flat, concave, somew. membr. oval-ellipt. and renif. wrink. dark.

lyncea, crust thin, sub-tartareous, equal, somewhat cracked, white. Apoth. clustered, flat, somewhat immersed, round, oblong and curved, black, caesious, (grey.)

punctiformis, crust somewhat determinate, membranaceous smooth, dark orange-yellow: receptacles minute, roundish, scattered, sub-immersed, flattish one side and sub-convex the other, dark colored. On the tender bark of branches of trees.

pruinosa, crust thin, of a tartar-like appearance, unequal, smooth, ramose, white: receptacles flat, immersed, roundish polygons confluent obscurely dark yellow, mealy glaucous. On oak bark, &c.

ASPERGIL'LUS. Lat. sprinkling brush. Mould. 6. Fun.

pencillatus, filaments scattered, heaped, a line high, bearing long tufts of beaded seeds. On specimens in herbaria.

glaucous, in minute tufts of white erect filaments. Blue patches.

ATRACTO'BOLUS. Gr. *atraktos*, (spindle,) *ballo*, (to cast.) 6. Fun.

ubiquitarius, resembling scattered flower to the naked eye. On wood and stones.

B.

BÆOMYCES. Gr. *baios*, (small,) *mukes*, (fungus.) 5. Lic.

roseus, crust unif. granulat. greenish white. Podetia very short, cylind. Apoth. sub-glob. wrinkl. pale flesh-color.

microphyllus, leaves minute, somewhat imbricated, rounded, nearly entire. Podetia simple, tubular, smooth.

caespititius, thallus clustered, ascending, leafy, pinnatif. cut and crisped: bright green above, white beneath. Tubercles from the disk of leaves convex, reddish brown.

rufus, Ach. crust uniform, rugose granulated and pulverulent greenish-white: podetia very short, somewhat compressed, apothecia flattish at the top, sometimes conglomerate, reddish-brown. ½ i.

BAN'GIA. In honor of C. F. Bang, a writer on scripture Botany. 4. Alg.

laminariae, filaments tufted, fastigiate, equal. Bands approximating in pairs, many-dotted. 1—12 i.

BARBU'LA. Lat. *barbula*, (little beard.) 2. Mus.

caesptiosa, stem very short, sub-simple; leaves densely crowded together. oblong-linear, mucronate, convolute at the apex on becoming dry: capsules cylindric, with a straight-subulate lid of nearly its own length.

acuminata, leaves ovate-acuminate, concave, twisted on becoming dry: stems erect, simple and divided, becoming renewed: elongations of the renewed parts stand out behind the capsules.

fallax, stem ramose: leaves recurve-spreading: pericheth nerveless: capsules oblong; lid obliquely beaked. On walls and bye-lanes, &c.

lanceolata, leaves lanceolate, sub-apiculate, crisped when dry: fascicle of ducts strong: capsule bottle-form, straight; lid oblique.

tortuosa, caulescent, rather high, ramose: leaves lance-linear, acute, sub-denticulate, may become crisped: capsule straight, slender cylindric; lid subulate.

BARTRAM'IA. In honor of J. Bartram, an American botanist. 2. Mus.

crispa, pedicels erect: leaves subulate, crisped, serrate at the margin, much contorted when dry. In the mountains about Williams College.

œderi, stem elongated, slender: pedicels erect: leaves lanceolate, serrulate, scarcely twisted when dry. Among damp mountain rocks, &c.

longiseta, stem short, lesser stems somewhat simple: leaves not dense, subulate, keeled and scarcely perceptibly denticulate, erect when dry: peduncle very long.

BATRACHOSPER'MUM. Gr. *batrachos*, (frog,) *sperma*, (seed.) 3. Hep.

moniliforme, frond moniliform, much branched; branches rather acute: cauline whorls nearly distinct, globose.

BLA'ZIA. Gr. *blazo*, (useless.) 4. Alg.

pusilla, Sz. capsule marked, immersed in the frond, ovate-oblique, terminating in an open tube, permanent: frond orbicular or heaped together in abundance, beautifully green, net veined, dichotomous or trichotomous, bearing capsules on the apex.

BOLE'TUS. Gr. *bolos*, (a field,) touchwood. 6. Fun.

1. *Pileus fleshy, cushion-like, easily separated from the elongated tubes.*

annulatus, pileus cushioned, campanulate, viscid, becoming yellow livid: with spots, from brick-colored streaks, becoming red; pores yellow: stipe annulated. Among pines, &c. in autumn.

corticatus, stiped: pileus yellow, sub-viscid, orange in the centre; the fleshy part white, firm and ridgy or crisped; tubes yellow: curtain-like volva white: stipe thick, especially towards the base.

rufus, pileus dilated, plano-convex, brick-red; pores white: stipe long, torn-wrinkled; scales becoming black. In grassy woods, &c. autumn. This is a variety of the *aurantius*.

scaber, pileus sub-rugose, grey-sooty-yellow: pores becoming pale white, depressed around the attenuated stipe; scales becoming black. In beech woods, &c. the beginning of autumn: at length it becomes dry, hard and dark colored. 3 by 4 i.

circinans, in groups: pileus viscid, sub-repand, thick straw-color or livid-yellow; pores acute, yellow: stipe somewhat slender, shortish, yellowish, rough with dark specks. Among pines, &c. early in autumn.

sub-tomentosus, middle-size: pileus cushioned, plano-convex, sub-tomentose, yellowish ash-color; the fleshy part not very changeable; pores large: stipe somewhat slender reddish in the middle or yellowish and one-colored. Grows in woods in autumn.

radicans, pileus cushioned, yellow-cinereous: margin involute sub-tomentose; pores citron yellow: stipe smooth, rooting, tomentose, one-colored. In oak woods, &c. autumn.

reticulatus, pileus cushioned, dilated, dirty yellow, mostly tessellated and chinked; fleshy part becoming bluish; pores middle size: becoming yellow: stipe shortish, glabrous, of the same color of the pileus, red within. Pileus often 5 or 6 inches broad.

edulis, pileus cushioned, very broad, dark yellowish purple, the fleshy part not changeable; pores at first filled and whitish, afterwards pale yellow: stipe tuberous sub-ventricose, reticulate, reddish grey. In woods, &c. autumn.

luridus, large: pileus cushioned, dark olive; pores equal, at first red, at length orange: stipe elongated red, reticulate, sub-bulbous. In July, large. 6 by 2 i.

2. *Pileus fleshy, coriaceous, mostly somewhat corky: tubes shortish, connected with the substance of the pileus.*

(Pileus entire: stipe central, or a little out of the centre and perpendicular.)

brumalis, pileus convex, sub-umbilicate, of a darkish shade becoming yellow, margin ciliate: pores oblong, white. Late in autumn on decaying trunks, &c.

perennis, coriaceous, tenaceous, cinnamon color: pileus thin, with zones, mostly connate. On the earth about decaying trunks, &c.

(Pileus halved; stipe lateral.)

frondosus, very branching: pilei many, halved, sooty-grey. About roots of oaks, &c. in autumn. The whole group or mass sometimes a foot broad.

lucidus, pileus very tough, coriaceous, chesnut-color, shining, with concentric furrows: pores minute, white. Stipe variable. On trunks of trees, very large, becoming tawny.

badius, sub-cespitose: pileus glabrous, tough, liver-brown, paler at the margin; pores minute, pale: stipe lateral, short, thick, dark cinerous. On hollow logs, &c. in autumn.

varius, sub-solitary: pileus tough, reddish yellow, halved or entire: stipe sub-lateral, elongated, black from the middle downward. On trunks, 1 to 2 inches broad.

(Pileus halved; without a stipe.)

citrinus, imbricate, halved, fleshy, glabrous, citron-yellow. Roots of oaks, &c. in summer and autumn.

odoratus, halved, odoriferous, sub-deformed: pileus rugose, with zones or parallel bands: dark shade at the base, margin arched and cinnamon color beneath, opake. On trunks.

marginatus, simple or sub-imbricate: pileus thick, hard tuberculate, becoming red or reddish-yellow, margin issuing a white juice: pores pale or light citron-yellow. Very hard and hairy; about 4 inches. When recent, acid drops of a liquid issue from the margin.

igniarius, dilated, smooth, cuticle in ridges: pileus hard, becoming dark at the base, at the margin cinnamon-color, beneath yellowish-white. Grows on trunks. General form like a horse's hoof. It is called *touchwood*. 6 to 18 i.

betulinus, sub-stiped, largish: pileus flesh-corky, reniform, dirty reddish yellow, white beneath. On roots, &c.

fomentarius, halved, hard: pileus sub-triquetrous, with obsolete belts, dirty ash-color; pores at first white glaucous, at length sub-ferruginous. Used for tinder.

velutinous, corky, simple, pileus convex, thin, hirsute, white; pores minute, dirty white. About 1½ inches broad, somewhat zoned. On dry trunks, &c.

lutescens, sub-cespitose, corky: pileus depressed, thin, tomentose, pale; with hirsute zones becoming yellow. On trunks, &c. with the last, which it resembles, but is rather broader.

versicolor, cespitose, coriaceous: pileus thin, with bluish many-colored zones; pores white. On dry trunks. Autumn and winter.

cinnabarinus, in groups, uniformly of a cinnabar or vermillion color: pileus thickish, ridgy, obsoletely zoned, sub-tomentose. One or two inches diameter.

3. *Open or effuse, upside down* (that is, the pores or tubes on the upper side) *pileus mostly obsolete.*

destructor, white: pileus unequal, undulated, rugose; pores roundish-obtuse. Grows in buildings, &c. which it tends to destroy. Its substance is fibrous and becomes dry.

radula, pale white, sub-tomentose: pores acute, unequally prominent, rough.

4. *Tubes free among each other.*

hepaticus, fleshy, blood-red, halved: tubes free, becoming yellow. Roots of oak, &c. in autumn.

BORRERA. In honor of Borrer, a British botanist. 5. Lic.

leucomela, thallus palish; segments erect, linear, multifid, attenuated, ciliated; beneath very white, powdery and channelled. Apothecia with a flat black caesious disk. 1½ i.

furfuracea, thallus greenish-gray, farinaceous; segments linear, attenuated, branched, grooved, naked, rugose and blackish beneath. Apothecia somewhat marginal, cup-shaped with their margin thin inflexed. 1½ i.

chrysophthalma, thallus yellow, naked, and of the same color on both sides: segments linear, flattish, pinnatifid, branched, fibrous at end. Apothecia somewhat terminal with an orange-colored disk. 1 i.

ciliaris, thallus greenish; segments linear, branched, attenuated, ciliated at end, whitish and channelled beneath. Apothecia somewhat terminal; disk concave, becoming flat, with a fringed border. 1¼ i.

exilis, frond pale white; divisions very branching, entangled a little, compressed, capillary, attenuated: receptacles scattered; disk flattish, saffron color, with a thin entire frond-like margin.

columbiana, Nutt. thallus cartilaginous, cespitose, sulphur-yellow, somewhat compressed, sub-lacunose, divaricate, spread-branched; divisions erectish, attenuate, slender: scutellae sparingly aggregated, mostly terminal, fuscous; hairy rays of the margin reflexed. Grows on pine trees, Rocky Mts.

BO'TRYTIS. Gr. *botrus*, (a bunch or grapes.) 6. Fun.

diffusa, very lax tufts; branches few, white, long, spread, having short branchlets bearing round clusters of seeds. On decayed herbs. ¼ i.

parasitica, somewhat tufted, lax, white, slightly branched: seeds roundish. On Shepherd's purse.

BOVIS'TA. Lat. *bovis* (of *bos*, an ox) ox-buff ball. 6. Fun.

nigrescens, white, becoming blackish-brown: plicate beneath. Largish: in pastures. 2 i.

gigantea, almost sessile, very large, globular, yellowish-white: having scattered sub obsolete scales: in pastures, often from 6 to 12 inches in diameter.

BRY'UM. Gr. *bruon*, (moss.) 2. Mus.

1. *Staminate flowers peduncled, leafless.*

androgynum, leaves lanceolate, acute, imbricate-spreading: capsule erect, oblong; lid conic. In damp woods.

2. *Staminate flowers sessile, terminal, bud-form: capsules peduncled.*

carneum, stem simple: leaves lanceolate, acute, entire, reticulate, remotish: capsule pendulous, ovate. In damp shades.

argenteum, stem ramose at the base, cespitose: leaves ovate, concave, mucronate, imbricate, glaucous-silvery: capsule ovate-oblong, pendulous. On walls, houses, and sandy soils.

caspititium, stem ramose at the base: leaves lance-ovate, acuminate, imbricate; capsule oblong, pendulous; lid convex. On walls, houses, &c.

3. *Staminate flowers sessile, terminal, with a disk-like tuft of leaves.*

roseum, stem erect: leaves crowded together, stellate, oblong, entire, acute: capsule oblong; lid conic. In woods and bushes.

cuspidatum, leaves lance-ovate, serrate: capsule ovate, pendulous; lid conic, obtuse. In moist shades.

punctatum, stem erect, sub-simple: leaves obovate, entire, punctate-reticulate: capsules ovate; lid subulate, incurved. In damp shady lawns, &c.

4. *Flowers perfect; germs nodding.*

nutans, stem sub-simple: leaves lanceolate, acute, keeled: capsule obovate, nodding: lid convex, short-mucronate. In dry barren situations.

Bulga'ria. Lat. *bulga*, (a leather bag) false peziza. 6. Fun.
inquinans, turbinate, firm, scale wrinkly outside, umber-color: disk flattish and dark-colored. On dead oak.
sarcoides, irregular, cespitose, subgelatinous, somewhat firm, reddish-purple and somewhat veiny outside: seed-bed concave. On decaying trees. ½ i.

Buxbau'mia. In honor of Buxbaum, a German botanist. 2. Mus.
aphylla, destitute of apparent leaves, fungus-like. 1 i.

C.

Cali'cium. Gr. *kalukion*, (a little cup.) 4. Alg.
stigonellum, crust somewhat contiguous, unequal, whitish or none. Apothecia sessile, sub-globose, dark smooth; disk dot-like, becoming flattish with a thin shining margin. 3 i.
cantharellum, crust thin, whitish, powdery, apothecia lentiform: disk flesh-colored, becoming brown powdered; stalks filiform, naked, pale, becoming brownish or black. ½ i.
turbinatum, puffs turbinate, nearly sessile, black rather polished: disk dark, opake, puncticulate, within a thick contracted margin. On trunks of trees, &c.

Calo'cera. Gr. *kalos* (beautiful) *keras* (horn) horn-club. 6. Fun.
tuberosa, yellowish, tough, sub-simple: stem tuberous long-rooted. Under bark of trees. 2 i.
cornea, tufted, small simple and branched, viscid, yellow, connate at the base. On trees. ¼ i.

Calym'peres. Gr. *kalumma*, (veil,) *peros*, (mutilated.) 2. Mus.
hobsoni, stem elongated: leaves linear, serrate, with athick line below the margin: calyptre smooth. 1 i.

Campylo'pus. Gr. *kampulos*, (curved.) 2. Mus.
pulvinatus, stem ramose fastigiate: leaves lanceolate, hairy: capsule oval, nodding; lid subulate. On walls.

Canthare'lus. Fr. *chantarelle*, (string of a violin,) eatable fungi. 6. Fun.
cibarius, yellow, cap fleshy irregular smooth: veins tumid: stipes solid, tapering at the base. In fields. 1½ i.
cornucopioides, cap tube-form pervious scaly black-umber; wrinkles, obsolete. Purplish, elastic. 2 i.
lutescens, cap sub-membranaceous funnel-form, waved, yellowish or brownish; veins anastomose: stipes hollow, yellow. 2 i.

Carpobolos. Lat. *carpos*, (fruit,) *bolos*, (sphere.) 3. Hep.
orbicularis, fronds about half an inch in diameter, often confluent, never superincumbent: capsule yellow, semi-transparent.

Cathari'naea. Gr. *katharizo*, (to purify.) Or perhaps Catharine. 2. Mus.
undulata, leaves lanceolate, serrate, undulated, crisped when dry: capsule cylindric; lid subulate. Shady woods.

Cenangium. Gr. *kenos*, (hollow,) *aggion*, (bag.) 6. Fun.
quercinum, simple, in heaps, long, zigzag, at first closed, afterwards open with a broad pale disk. On dead plum-trees. ¼ i. 1.

Cenomyce. Gr. *kenos*, (empty,) *mukes*, (a small fungus.) 5. Lic.
alcicornis, thallus foliaceous, very pale, glaucous green; the segments sub-palmated, ascending, obtuse and incurved. Podetia elongated, turbinate all cup-bearing, smooth, the cups regular crenate, with the margin at length leafy and proliferous. Apothecia brown.
pyxidata, thallus foliaceous; segments crenulated ascending: podetia all turbinate, elongate cup-shaped, glabrous, at length glanulat. warty rough, greyish-green: cups regular; the margin at length prolif. Apothecia brown.
fimbriata, thallus foliaceous; the segments small, crenate: podetia elongated, cylindrical, cup-bearing, sometimes subulate, slightly pulverul. white: cups regular, their margins cut and crenate, at length prolif. apoth. brown.
gonorega, thallus floccous. Segments broadish, crenulate, cut. Podetia longish, smooth, somewhat warted, glaucous or whitish green. Apothecia irregular, torn into rays, proliferous at the edge.
ecmocyna, thallus foliaceous; segments small crenate: podetia long subulate, sterile and fertile, smooth, livid-brown, apothecia cup-shaped, toothed at the edge, occasionally proliferous.

bacillaris, thallus foliaceous small: segm. inciso-lobate, crenate: podetia cylindr. simple and somew. branch. at the extremity, greenish-white, granulated, rarely cup-bearing: cups narr. at the radia. apothecia minute, scarlet.

deformis, thallus foliaceous, minute; segments broadish, cut-crenate, naked beneath: podetia long, thick, sub-ventricose, sulphur-colored, slightly pulverulent, cup-bearing: cups narrow crenate-dentate, at length dilated and jagged, apothecia sessile and pedunculate, scarlet.

coccifera, thallus foliaceous minute; segm. rounded crenate naked beneath: podetia elongated, turbinate, naked, nearly pale-yellow or greyish green, all cup-bearing, cups with their margins spreading fertile apothecia large, at length stalked, scarlet.

sparasa, thallus foliac. with minute lobes and crenated: podetia elongated, branch. sub-ventr. granulat. rough with leafy scales, cup bearing: cups irregular, pervious, dentato-radiate, proliferous, apothecia stalked, pale brown.

delicata, thallus foliaceous with minute granular lobes: podetia smooth, granular, pallid, divided at end; divisions very short: apothecia clustered, brownish black.

furcata, podetia elongated, smooth, livid-brown, dichotomous, axils not perforated; branches narr. subulate, curved, the extremities forked, divergent: fertile ones with brown apothecia.

uncialis, podetia elongated, glabr. pale dichotomous; the axils perforated open; the extremities of the branches patent, short, acute and rigid: apothecia small, terminal, brown.

rangiferina, podetia elongated; cylinder erect, roughish, hoary, branched; axils often perforated; branches scattered, very much divided, spreading, the ultimate ones sub-radiate or drooping: apothecia sub-globose, clustered, brown.. Var. *pungens*, podetia cinereous, dichotomously branched, rigid, forming a cushion-like tuft; axils not bored through; end of branches mucronate, diverging, brownish.

vermicularis, podetia subulate, nearly simple, smooth, very white, sub-fistulose, flexuose, prostrate.

CERA′MIUM. Gr. *keramas*, (a small measure.) 4. Alg.

diaphanum, filam. dichotom. much branched, somewhat membranous, variegated with purple and hyal. Joints elevated. 5 i.

rubrum, filam. dichotom. much branched, somewhat cartilaginous, branchlets forked. Artic. ovate, opaque. 10 i.

roseum, filam. branched; branchlets alternate, rigid, spreading, subulate. Artic. 3 times as long as broad. 1½ i.

tetricum, primary filaments downy. Branches straight, decompound, pinnate. Artic. 3 times as long as broad. 6 i.

CERA′TIUM. Gr. *keras*, (horn.) 6. Fun.

hudnoides, growing in small tufts: filaments sub-confluent, simple or branched and fascicled. On dead wood. 1—12 i.

CETRA′RIA. Lat. *cetra*, (a square buckler.) 5. Lic.

juniperina, thallus pale-yellow, very yellow beneath: the segments plane, ascending, erose, crenate and crisped. Apothecia elevated: their disk brown, the margin crenulated. 1½ i.

glauca, thallus glaucous, somewhat shining, sinuated and lobed, brown beneath; the segments cut and jagged, curled, ascending. Apothecia elevated, chesnut-brown; their margin wrinkled. 2 i.

islandica, thallus olive-brown, paler beneath; the segments erect, sub-linear, multifid, channelled, smooth, dentate-ciliated; fert. branches spreading. Apothecia appressed, plane, of the same color; margins elevated, entire. 2 i.

CHON′DRIA. Gr. *chondros*, (cartilage.) 4. Alg.

pusilla, frond compress. filif. somew. contract. here and there, fructif. either min. tuberc. or scatter. spor. in ramuli. ¾ i.

articulata, frond filiform, chain-like, in joints, tubular. Branches fastigiate, dichotomous and whorled. 6 i.

CHORDA′RIA, Gr. *chorde*, (a cord.) 4. Alg.

flagelliformis frond much branched. Branchlets virgate, somewhat distichous, spreading at the base. 24 i.

CLADOSPO′RIUM. Gr. *klados*, (branch, bearing the fruit.) 6. Fun.

herbarum, tufted, minute, olive-green, becoming blackish and rigid. On dead stems.

CLAVA′RIA. Lat. *clava*, (club.) 6. Fun.

1. *Coral-like; clarate pilcus branched.*

(Stems or stipes very thick.)

coralloides, white, erect: branches elongated, irregular, mostly acute, unequal. Coral club. On the ground. 3 i.

formosa, very branching: stem sub-decumbent, thick, white; branches elongated, rose orange; branchlets obtuse, becoming yellow. In groves.

flava, stem thick, white; branches and branchlets straight, shortish, yellow. In autumn it grows in shady woods, about 3 inches long.

botrytis, sub-deformed: stem very thick, decumbent, becoming palish-white; branches shortish, sub-rugose; branchlets obtuse, red. On fallen trees, &c. 3 i.

(Stem slender, or not so thick as to equal all the branches taken together.)

palmata, somewhat winged or wing-like, becoming pale: stem slender; branches sub-compressed, palmate. About three inches long, and the breadth about the same.

corniculata, sub-ramose, yellow: stem slender, elongated, twice ternately divided in forks; branchlets acute. Branches mostly compressed; branchlets a little woolly. In woods, 1½ inch long. 3 i.

byssiseda, various, sub ramose, small, pale reddish-yellow: rootlets bysus-like or flax-like, white, sessile or sitting down. Springs up among fallen leaves, &c.

mucida, in groups, minute, simple and ramose, white; apex ochre-color, sitting down with a tomentose base. On decaying trunks, &c. about the fourth of an inch long, substance tough.

cornea, in groups, minute, viscid, becoming yellow, simple and ramose, connate at the bases. On trunks in autumn, scarcely the fourth of an inch long; rarely half an inch.

2. *Simple; the clavate pileus not branched.*

ligula, sub-cespitose, pale reddish-yellow, opake, various, villose and slender at the base; terete or sub-compressed at the apex. Adhering to branches, &c. About 2 inches long.

pistillaris, solitary, large, thick, from yellow becoming a little reddish; round at the apex. Nearly cylindric at first, and becoming thick and sub-rugose. Has a bitter taste. 12 i.

fusiformis, cespitose, heaped together, orange: clavate pileus attenuated, sub-tenacious, cohering at the base. In woods. 3 i.

flavipes, cespitose, fragile: clavate pileus sub-falcate, acuminate, pale; approximate at the base; shining yellow.

eburnea, cespitose crowded, fragile, snow white. In shady woods on the earth. Very variable: but distinguished by being white and fragile.

herbarum, in groups, minute, lanceolate, sub-tenaceous, becoming dark-olive. Hardly belongs to this genus. About one-sixth of an inch long, on leaves and other herbage.

muscicola, very minute, white, sub-incrassate, curved, all glabrous; sitting down with globose tubercles.

gyrans, on leaves, wholly white, filiform: stipe with long pubescence. In autumn. Stipe white, weak.

rugosa, (pond 3 miles east of Troy.) See Loudon.

CLIMA'CIUM. Gr. *klimax*, (stairs.) 2. Mus.

dendroides, (tree moss,) stem branching, tree-form: leaves crowded, erect, lanceolate, sub-3-nerved, serrulate above: capsule erect.

CO'DIUM. Gr. *kodion*, (skin.) 4. Alg.

tomentosum, frond dichotomous, fastigiate, cylindrical. 6 i.

COLLEMA. Gr. *kolle*, (glue.) 5. Lic.

nigrum, thallus crustaceous, roundish, brown-black; lobes of the circumference cut-crenate: centre granular, a little branched: apothecia becoming convex, black-edged.

crispum, sub-orbicular; the central lobes somewhat erect, granulated; those of circumference depressed, larger, obt. crenulate: fructification scattered, rather concave, reddish, with a granulated margin.

tenax, sub-orbicular, imbricated; lobes thickish, flat, incumbent, roundish, cut-lobed and crenulate: apothecia scattered, immersed in the lobes and concave, rufous with an entire edge.

palmatum, thallus sub-foliaceous, green-brown-glaucous; lobes thick, close palmate, cut; segments somewhat linear, round: apothecia rufous-brown.

burgessii, thallus foliaceous, somewhat imbricated, glaucous, greenish-brown, pubescent and somewhat spongy beneath; lobes rounded, sinuated, crenulate and crisped: apothecia depressed, planish brown; their margin foliaceous crisped.

nigrescens, thallus foliaceous, membranous, sub-monophyllus, orbicular, depressed, plaited, rounded and lobed, black-green: apothecia central, crowded, at length convex, reddish brown; their margin entire.

furvum, thallus foliaceous, membranaceous, somewhat wrinkled, complicated, blackish-green, granulated on both sides; lobes round, unequal, waved and crisped, entire: apothecia scattered, plane, dark-brown; their margin entire.

tremelloides, thallus foliaceous, membranaceous, thin, sub-diaphanous, lead-color, obsoletely rugose and dotted; lobes rounded, somewhat cut: apothecia scattered, subpedicellate, plane, reddish-brown; their margin pale.

lacerum, thallus nearly erect, foliaceous, membranaceous, sub-diaphanous, sub-rurugose, with obscure reticulations, glaucous: lobes small, sub-imbricate, laciniate and somewhat fringed: apothecia scattered, rather concave, red; their margins pale.

pulposum, frond sub-orbicular, formed of thick, sub-imbricate, repand-crenate, plicate, naked lobes: receptacles central, crowded, flattish, reddish-yellow, with elevated entire margins.

papulosum, frond orbicular; central lobes thick, entangled, irregular: those of the periphery expanded, dilated outwardly, gash-crenate, warty blistered above.

pallescens, frond yellowish-green, pale beneath; lobes deformed, densely entangled, irregularly crenate, ascending: receptacles sub-marginal. A variety of the *tenax*.

myrioeccum, frond sub-orbicular, imbricate, black: lobes crowded, entangled, crisped, granulate: receptacles minute, globose-turbinate, heaped together, marginal and scattered, one-colored, marked with punctures. Among and on mosses, on rocks, &c.

pulchellum, frond foliaceous, membranaceous, orbicular, flat, sub-laciniate, round lobed at the periphery, plicate-papulose above, dark-green, paler beneath and deeply lacunose: receptacles scattered, crowded, elevated; disk urceolate, pale wax-color; margin thin, contracted, entire, at length sub-rugose.

CONFER'VA. Lat. *conferveo*, (to knit together.) 4. Alg.

ericetorum, filaments simple, creeping, entangled in a brownish-purple layer. Joints half as long again as broad. ¼ i.

vesicata, filaments simple, fine. Articulations half as long again as broad, with globular inflations at intervals. 6 i.

rivularis, filaments simple, capillary, very long, straight, equal. Articulations grain-bearing, 2 or 4 times as long as broad, shining when dry.

linum, filaments simple, filiform, rigid, crisped, loosely entangled, when dry variegated. Articulations turgid, dotted. ¼ i.

riparia, filaments branched, remotely capillary, very long. Branches short, divaricating. Articulations twice as long as broad. 3 i.

glomerata, filaments branched, capillary. Branches alternate; those at the end clustered, one-sided, erect. Articulations cylindric. 1 i.

rupestris, filaments much branched, setaceous when dry, dotted with black. Branches erect. Joints pellucid. Articulations cylindric, 3 times as long as broad. 4 i.

catenata, filaments more than bristly, trichotomous, shining, when dry dotted with black at joints. Articulations 3 times as long as broad. 1 i.

CORNICULARIA. Lat. *cornicularia*, (little horns.) 5. Lic.

trisetis, thallus deep, pitcher-brown, rounded or sub-compressed, smoothish, distichously dichotomous; branches fastigiate, black above: apothecia plano-convex, blackish-brown, somewhat marginated, entire and toothed.

ochroleuca, thallus glabrous, pale yellowish-white, roundish, sub-erect, branched; branches short, attenuated, blackish at the points: apothecia brownish pale in the circumference.

pubescens, thallus decumbent, rounded, roughish: branches intricate, capillaceous; the ultimate ones simple: apothecia of the same color entire in the circumference.

fibrillosa, frond obscurely soot-yellow, terete, smoothish, slender, entangled, ramose, somewhat rough-haired; from the branchlets and fibres which are flexuose, ramose very thick, irregular, sub-clavate. On rocks. Variety of the *pubescens*.

Crate'rium. Gr. *krater*, (a cup.) 6. Fun.

leucocephalum, cup-form, reddish-brown, with a very thin, vanishing white convex lid: filaments white: seeds dark: with mosses. 1—6 i.

Cribra'ria. Lat. *cribrum*, (sieve) pin-head. 6. Fun.

micropus, gregarious, roundish: stipes short, blackish. On pine trunks. 1—12 i.

Cryphae'a. Gr. *kryphaios*, (concealed.) 2. Mus.

heteromalla, stem branching, diffuse. leaves lance-ovate, acute, 1-nerved: capsules lateral, sub-sessile. On trunks.

Cystose'ira. Gr. *kustis*, (a bladder.) *seira*, (a chain.) 4. Alg.

ericoides, leaves densely spiny all over. Vesicles elliptic, somewhat terminal, crowned solitary. Recep'tacle warty from inflated base of spines. 6 i.

Cytispo'ra. Gr. *kutis*, (little chest.) *spora*, (seed.) 6. Fun.

chrysosperma, cells impressed on the receptacle: disk emerging, blackish, having a yellow tendril. On poplar bark.

D.

Dacrymy'ces. Gr. *dakru*, (tear,) *muke*, (fungus.) 6. Fun.

moriformis, conglobate, sinuate, dark, opaque; fleshy and purple inside. Mulberry-like. On dead wood.

stellatus, gregarious, entire, round-depressed, pulpy, orange. ⅛ i.

Daeda'lea. Lat. *daedalus*, (skillful work.) 6. Fun.

quercina, sessile, pale, woody: cup-suberose, rugose, glabrous: seed-bed contorted, sinuose anostomosing. On rotten wood.

Delesser'ia. In honor of Delessert, of Paris. 4. Alg.

alata, frond ribbed, obsoletely nerved, linear, dichotomous, alternately pinnatifid towards the end; pinnæ rather lingular. 6 i.

punctata, frond very thin, veinless, roundish, irregularly split at the end. Sori on the disk of the frond. 4 i.

Diat'oma. Gr. *diatoma*, (an incision.) 4. Alg.

flocculosum, filaments striated. Articulations nearly equal in diameter with parallel striae. In ditches. 1—12 i.

marinum, articulations half as long again as wide, granulated transversely. Ocean. 1—12 i.

Dichospo'rium. Gr. *dicha*, (double,) *spora*, (seed.) 4. Alg.

aggregatum, clustered dots on the bark of trees.

Dicranum. Gr. *dicranos*, (forked.) 2. Mus.

1. *Capsule with apophyses.*

cerviculatum, monœcious: stem simple: leaves capillary, without nerves, spreading, lax: capsule ventricose, erectish; apophysis gibbose.

virens, stems divided; branchlets erect, sub-divided: leaves clasping at the base, linear, flat, spreading, coiled: capsules nodding, at length curved; apophysis wen-like.

fragile, stem erect, ramose, very fragile: leaves erect, densely crowded together, somewhat whorled, lance-ovate, acuminate, sub-entire, with the margin undulated: capsule nodding, elongated; apophysis wen-like, at length striate.

2. *Capsules without apophyses or truncated processes on the foreside of the base.*

(Leaves turned to one side.)

scoparium, stem ramose: leaves lance-ovate, acuminate, keeled, falcate: pedicels sheathed, solitary: lid long-beaked.

condensatum, stem short simple: leaves lance-oblong, mucronate with extended fascicular points: capsules nodding: lids subulate. On the earth.

heteromallum, stem sub-simple: leaves capillary, 1-nerved, dilated at the base: capsule ovate; lid long-beaked.

orthocarpon, small; stem short, simple: leaves setaceous, dilated at the base: peduncle lateral, longish: capsule sub-erect, oblong-ovate; lid beaked.

varium, stem sub-simple: leaves somewhat one-sided, lower ones lanceolate, upper ones subulate: capsules urceolate, somewhat nodding; lid conic.

(Leave not one-sided.)

xanthodon, minute: leaves lanceolate, long-acuminate: capsules ovate; teeth of the peristome yellow.

polycarpon, stem ramose: leaves linear-subulate, twisted when dry, investing the stem on all sides: capsule obovate, erectish, furrowed. On rocks in mountains.

glaucum, small: stem ramose, thick with a dense foliation: leaves glaucous, convex-channelled: capsule sub-inclined, oblong-ovate; lid slenderly subulate, sub-inflexed.

3. *Capsules with truncated prominences, on the foreside of the base.*

purpureum, stem dichotomous: leaves lanceolate, twisted when dry, furnished with a purple nerve: capsule oval; lid conic.

Dicty′deum. Gr. *dictuon*, (net,) *eidos*, (similar.) 6. Fun.

cernuum, gregarious brown-purple, nodding, umbilicate: membrane of the pericarp deciduous; flocculence robust. On rotten wood. 1—12 i.

Didy′modon. Gr. *didumos*, (double,) *odous*, (tooth.) 2. Mus.

rigidulum, leaves lanceolate, cuspidate, from the middle nerve somewhat rigid: lid subulate.

Diphys′cium. Gr. *dis*, (two,) *phuskion*, (little vessel, or capsule.) 2. Mus.

foliosum, stemless: capsules sub-sessile: leaves lance-linear.

Diploco′mium. Gr. *diploos*, (double,) *kome*, (lock or hair.) 2. Mus.

longisetum, caulescent: leaves gradually narrow-acute; upper ones subulate, acute, base broad.

Diti′ola. Gr. *dis*, (double,) *iolos*, (down.) 6. Fun.

radicata, disk flattish, yellow: stipe thick villous, white, long-rooted. On pines without bark. 1 i.

Dothide′a. Gr. *dothion*, (tubercle,) *eidos*, (similar.) 6. Fun.

typhina, long, surrounding the culms, whitish becoming dark yellow, at length rendered granular by the orifices. On grass stems.

Draparnal′dia. In honor of Draparnaud, a French botanist. 4. Alg.

plumosa, pencils of branches lanceolate, acute, erect. 6 i.

E.

Ectocar′pus. Gr. *ektos*, (outside,) *karpos*, (fruit.) 4. Alg.

siliculosus, filaments nearly separate. Branches erect, subulate. Articulations rather longer than broad. Pods linear subulate. 6 i.

granulosus, filaments much branched. Branches scattering, spreading, tapering, acute at tips hyaloid. Articulations as long as broad, finally tumid. 3 i.

Endocarpon. Gr. *endon*, (within,) *karpos*, (fruit.) 5. Lic.

sinopicum, thallus crustaceous, cracked into areola, figured, somewhat lobed, greenish, rubiginous, depressed at the circumference: orifices depressed, black. 1 i.

tephroides, thallus crustaceous, sub-membranaceous spreading and sub-foliaceous contiguous, wavy, cracked, glaucous, ash-colored, irregularly lobed and crenate at the margin, beneath black somewhat spongy; orifices elevated-convex, black, perforated. 1 i.

hedwigii, plant sub-cartilaginous, roundish or somewhat angular-lobed, of an olive-green; beneath pale at margin; the rest blackish and fibrillose, orifice of the fructification sub-prominent, dark-brown. ¼ i.

miniatum, thallus thick, crustaceo-cartilaginous, foliaceous orbicular, peltate, greyish, spread at margin, somewhat lobed and waved; beneath smooth, at length rugose and tawny, orifices minute, slightly prominent, brownish. 1 i.

weberi, thallus cartilagino-coriaceous lobed, greenish-brown, olivaceous; beneath rather tawney or blackish, on both sides smooth; the lobes laciniated, waved, plaited and crisped, crowned; orifices rather convex, black.

muhlenbergii, frond thick, crusty-cartilaginous, foliaceous orbicular, peltate, obscurely tawny-green, thin, rugose-plicate and somewhat in chinks; dark tawney and tubercled beneath: little mouths convex.

Eri′neum. Lat. *erinaceus*, (prickly, hedge-hog.) 6. Fun.

fagineum, depressed, broadish, tawny red: at first thick crowded and pale.

acerinum, depressed, pale, becoming reddish brown: fruit-covering club-form, upper half often inclined. On under side of leaves.

pyrinum, reddish-brown: fruit-covering, compressed, lid somewhat lax, apex club-form, often truncate.

Ery'sibe. Gr. *erusibe*, (mildew.) 6. Fun.

artemisiae, minute: filaments forming a dense whitish web. On both sides of the artamisia leaf.

trifolii, globular, black; filaments giving both sides of the leaf a farinose aspect.

arcta, filaments simple granuliferous: bodies pear-form, small, thickly covering the whole under surface of the burdock leaf.

Euro'tium. Gr. *euros*, (mouldiness.) 6. Fun.

herbariorum, gregarious, punctiform, yellow: filaments whitish branched. On dried plants.

Evernia. Gr. *evernes*, (tall, branched.) 5. Lic.

prunastri, thallus greenish-white; segments dichotomous, multifid, ascending, linear-attenuate plane, pitted, grooved and white beneath, apothecia bright brown, concave.

Exid'ia. Gr. *exeimi*, (to go forth,) Jew's ears. 6. Fun.

auricula, sessile, concave, flexuose, blackish, plaited on each side, with veins; olive-grey and downy beneath. On elder trunks. 3 i.

recisa, soft flat-truncate, sub-repand, fuscous beneath, dotted, scabrous: stipes very short, oblique, out of centre. On dead willows. ¾ i.

Exospo'rium. Gr. *ex*, (out,) *spora*, (seed.) 6. Fun.

tiliae, gregarious, black, minute, convex: seeds elongated, obtuse, divided transversely by 5. On basswood limbs.

F.

Fiss'idens. Lat. *fissus*, (split,) *dens*, (tooth.) 2. Mus.

bryoides, stem short: leaves facing 2-ways, lanceolate: pedicels terminal: capsules erect. In damp shades.

laxifolius, stem short: leaves facing 2 ways, lanceolate, slenderly denticulate: capsules erect. In damp shades.

adianthoides, stem elongated, ramose: leaves lanceolate, sheathed at the base: pedicels lateral: capsules sub-erect. In wet woods and meadows.

Fistuli'na. Lat. *fistula*, (pipe or tube,) false boletus. 6. Fun.

hepatica, liver-like patches on oak trees. It is eatable, and intermediate between Boletus and Hydnum. 6 i.

Fontina'lis. Lat. *fons*, (fountain.) 2. Mus.

capillacea, (water moss.) leaves acute, linear-awl-form, spread, longer than the capsule: sheaths and peduncles long filiform.

antipyretica, stem branched, three-sided: leaves facing three ways lance-ovate, carinate, acute; pericheth obtuse. In water, both stagnant and flowing.

Fucus. Gr. *phukos*, (a seaweed, red color.) 4. Alg.

nodosus, stem compressed, here and there inflated with internal vescicles. Receptacles lateral, distichous; stalk pyriform. 36 i.

vesiculosus, frond flat-ribbed, linear, dichotomous, entire. Vesicles spherical innate upon frond in pairs. Receptacle terminal, elliptical. 24 i.

loreus, cup radical, circular, plano-convex, emitting from its centre a frond terminating in a very long dichotomous receptacle. 36 i.

Fu'ligo. Lat. *fuligo*, (soot.) 6. Fun.

rufa, reddish-yellow, cushioned: bark sub-rugose, fragile. On trunks of trees.

flava, yellow, opening roundish, with a cellular fibrous bark. On fallen leaves and trunks in autumn.

vaporaria, cinnamon-yellow, broad-cespitose, thick, cellular-fibrous when mature. On pulverized bark, first appearing like vapor.

Funa'ria. Lat. *funis*, (a rope.) 2. Mus.

hygrometrica, (hygrometer moss.) leaves ovate, acute, concave, entire, inflected; capsules swelling, drooping, pear-form: pedicels very long, twisting spirally when dry, untwisting when damp. On dry bogs. 3 i.

flavicans, leaves setaceous, long-acuminate: peduncle capillary, pale.

muhlenbergii, leaves obovate, awned, concave, serrulate, spread: capsule obovate, oblique.

Furcella'ria. Lat. *furcilla*, (a little fork.) 4. Alg.

fastigiata, the only species. 9 i.

Fusi'dium. Lat. *fusus*, (spindle.) 6. Fun.

griseum, mass thin, irregular, of a whitish or grey color. On dead beech leaves.

flavo-virens, mass bright yellow or greenish.

G.

GEAS'TRUM. Gr. *ge*, (earth,) *aster*, (star.) Ground star. 6. Fun.

coliforme, volva multifid: peduncles and mouths of the fruit-covering numerous. In pastures. 2 i.

quadrifidum, fruit-covering globose stalked: orifice hoary: the radiating divisions mostly in fours, arched. In pine woods. 2 i.

stellatum, volva multifid spreading, divisions equal: head depressed spherical sessile; orifice acuminate. Damp ground.

rufescens, volva many-cleft, reddish: fruit.covering sessile, glabrous pale. In pine woods.

hygrometricum, volva many-cleft, inflexed, liver-brown; fruit-covering reticulate, sessile, nearly uniform-colored. On gravelly soil.

GEOGLOS'SUM. Gr. *ge*, (the earth,) *glossa*, (tongue.) False club. 6. Fun.

hirsutum, stipe hirsute, black: seed-bed sub-plicate. In bogs. 2 i.

viride, green, sub-fascicled; seed-bed distinct; stipe with minute scabo. In meadows. 2 i.

GRAPHIS. Gr. *grapho*, (to write.) 5. Lic.

scripta, crust membranaceous, smooth, somewhat shining, white or greyish-brown, bordered with black: apothecia half immersed, naked flexuose, simple or branched: disk very narrow, margin formed of the thallus, raised, membranaceous.

serpentina, crust cartilaginous, membranous, unequal, rugulose of a regular figure, white and cinerious: apothecia immersed, long, clustered, flexuose, nearly simple and branched.

lyelli, crust membranous, polished, pale olive: apothecia clustered, nearly simple, curved, turgid, obtuse; disk broad, convex cinerious, pruinose, with a thick, powdery-white margin.

GRIM'MIA. In honor of Grimm, a German botanist. 2. Mus.

1. *Capsules sub-sessile, immersed.*

alpicola, stem ramose: leaves lanceolate, obtusish: capsule ovate-urceolate, smooth, sub-sessile; calyptre torn at the base; lid obliquely beaked.

apocarpa, stem ramose: leaves ovate-acuminate, carinate, naked at the apex: capsule oblong, striate, sub-sessile. On moist trunks.

michauxii, Torrey. slenderly caulescent: leaves lanceolate, terminating in a capillary, white pellucid and roughish point: pedicel terminal: capsule short-ovate, smooth. Michaux describes this species under the name *gracilis*: but this name having been applied to another species, Dr. Torrey substituted the name of its discoverer. Herb. Tor.

pilifera, stem erect, branching: leaves densely imbricate, lanceolate, erect spreading and, incurved; hairy pericheth large: capsules ovate, sub-sessile; lid conic, cuspidate.

2. *Capsules peduncled, exsert, short.*

ovata, stem very branching, fastigiate: leaves lanceolate, obtusish, erect, spreading, somewhat inflexed, hairy: capsules oblong-ovate; lid convex-conic.

Remark. Many species of the genus Grimmia are referred to the genus Weissia.

GYMNOSTOMUM. Gr. *gumnos*, (naked,) *stoma*, (mouth.) 2. Mus.

1. *Stem simple, erect.*

pyriforme, stem very short: leaves ovate, acute, flat: diœcious; capsules erect, pear-form; lid obtusely conic; calyptre split laterally.

turbinatum, stem short, simple, leaves lanceolate, apiculate, serrulate: capsules somewhat oblong-turbinate; lid convex, obtuse, acuminate.

splachnoideum, capsule contracted in the middle: leaves deeply serrate at the margin.

2. *Stem divided, procumbent or floating.*

prorepens, stipe creeping: stem erect, short, obtuse: leaves closely imbricate, lance-oval, acuminate: capsules globose; lids subulate

GYROPHORA. Gr. *guros*, (a circle,) *phero*, (spherical.) 5. Lic.

glabra, thallus smooth, blackish-green: beneath smooth, black and naked: apothecia at length convex rough and plait. 2 i.

cylindrica, thallus somewhat naked, dark, greenish-grey, folded and lobed, strongly ciliated beneath, smooth, pale, with branching fibres: apothecia elevated, nearly plane, with concentric and plaited lines. 2 i.

pustulata, frond papulose, becoming cinereous-green; deeply pitted or lacunose beneath, smooth, naked, pale tawny: receptacles distant, flat, marginated: disk subequal, papillose and plicate. On rocks, &c. 2 i.

papulosa, frond rugose, papulose, obscurely cinereous; under side lacunose, pale tawny: receptacles very thick together, minute, urceolate: disk uniform and plicate, in some places heaped and conglomerate. On rocks.

pennsylvanica, frond papulose, tawny olive; under side pitted or lacunose, rough-granulate, dark-colored: receptacles marginated; disk flattish, uniform and plicate. On rocks and mountains.

muhlenbergii, frond somewhat glabrous, lacunose reticulate, tawny olive; under side papulose, with ridges lacerated and joining ends: scales of one color: receptacles in pits, depressed, flattish, round-plicate. On mountains.

mammulata, frond smooth, pale olive, at length dark tawny; under side very dark, scabrous and fibrous: receptacles convex, rugose chinked, nearly destitute of any margin: disk sometimes concave and papulose. On rocks.

vellea, frond smoothish, becoming cinereous; under side fibrous, hirsute, nearly of an uniform color, dark tawny: receptacles sessile, flat, marginated; folds or wrinkles concentric. On rocks in mountains.

Remark. I have localities of some of these species. But as I cannot give many under most genera. I have preferred the general *habitatio* of Lin. to a limited number of localities.

H.

HALYME'NIA. Gr. *als* (sea) *umen* (a membrane.) 4. Alg.

palmata, frond coriaceous, flat, palmate, entire. Segments cuneate oblong, nearly simple. 8 i.

HELICOSPO'RIUM. Gr. *elix* (a coil) *spora* (seed.) 6. Fun.

vegetum, cloud-like. At the foot of trees.

HELVEL'LA. Lat. *helvella* (a fungus, Cicero.) 6. Fun.

crispa, cap irregularly deflexed, free, often variously lobed, yellowish-white: stipe furrowed and lacunose-white. Field borders.

esculenta, cap inflated, deformed, wavy-wrinkled, in circles, brown: margin villous adhering to the smooth stipe. Pine woods—eatable.

HYD'NUM. Gr. *udnon* (mushroom, puff-ball.) 6. Fun.

1. *Stem perpendicular, cap distinct, round, sub-entire.*

imbricatum, cap fleshy, flat, tessellated, scaly, not banded, umber: processes yellow-ash-color: stipe short. Pine woods. 1 i.

repandum, cap fleshy, smooth, sub-repand, yellowish; subulate processes, the seed-bed unequal, pale: stipes unequal thick. Woods. 1½ i.

rufescens, cap fleshy, orbicular, sub-tomentose, flesh-brown: processes sub-equal: stipes thin, equal. Beech wood. 3 i.

2. *Cap halved, sessile, or not distinct.*

gelatinosum, cap gelatinous, papillose: processes mostly pyramidal, glaucous: stipe short lateral. Pine woods. ½ i.

coralloides, much branched, white, becoming yellow, and branches entangled; processes one-sided, subulate. Trunks of trees. 1 i.

ochraceum, effuse-reflexed; cap leathery, thin, banded, ochre; processes minute, numerous, flesh-yellow. Pine woods. Has a shaggy appearance. 2 i.

HYMENEL'LA. Gr. *umen* (a membrane.) Seeds are a membrane. 6. Fun.

vulgaris, long, various, smooth, whitish, when dry becoming brown, periphery adhering. On nettle stems. ¼ i.

HYP'NUM. Gr. *upnon* (moss.) 2. Mus.

1. *Leaves two-ranked*

sylvaticum, branches divided: leaves imbricate, compressed, spread at the apex, lance-ovate, entire, nerveless: lid subulate. Woods.

denticulatum, stem simple: leaves imbricate, compressed, spreading at the apex, lance-ovate, entire, nerveless: lid conic. On trunks and ground in woods.

serrulatum, shoots creeping; branches simple, bearing fruit at the base and middle: lid beaked.

prælongum, stem pinnate, creeping: leaves lance-ovate, acuminate, serrate, 1-nerved, spreading: lid subulate, incurved. (1)

riparium, stem ramose, spreading: leaves lax, lance-ovate, entire, one-nerved: lid convex, slightly mucronate. On stones, &c. in flowing streams.

2. *Leaves imbricate, close-pressed—sometimes a little spreading, part of their length.*

cuspidatum, stem pinnate, sub-erect: branches cuspidate: leaves lance-oblong, nerveless, smooth: lid conic. In ditches and brooks.

illecebrum, stem with scattered obtuse branches: leaves ovate, ventricose, obtuse, mucronate; obsoletely one-nerved. Woods and meadows.

abietinum, stem pinnate, villose: leaves lance-ovate, entire, one-nerved, 2-furrowed: lid conic. In dry places and among pines, &c.

splendens, stem bipinnate: leaves lance ovate, almost nerveless, shining, close-pressed: lid subulate, recurved. In woods.

delicatulum, stem decumbent, bipinnate: leaves cordate, with ruptured nerves and 2 grooves, scabrous: lid beaked.

minutulum, very slender, decumbent, pinnately branched: leaves very minute, oval, acute: margins and keel somewhat scabrous, separately incurved when dry: capsule recurved; lid long beaked.

adnatum, small; branchlets simple: leaves cordate-acuminate, destitute of fascicles: capsules nodding; lids conic.

3. *Leaves imbricate, spreading.*

graminicolor, stem creeping; branches sub-simple, erectish: leaves lax, sub-alternate, heart-lanceolate, acuminate, sharply serrate, with a nerve somewhat continued: capsules ascending, oblong, unequal; lid round conic.

hians, stem decumbent: branches short, simple: leaves somewhat lax, heart-ovate, acute, serrulate: peduncles a little scabrous: capsules oblong, slightly inclined: lid conic.

asprellum, stem decumbent, sub-pinnate, leaves remotish, somewhat bifariously imbricate, acuminate, serrulate with sub-continued nerves: capsules oblong, a little curved; lid conic, sub-mucronate.

lutescens, stem procumbent, ramose: leaves imbricate, lanceolate, acuminate, 3-striate: peduncles a little scabrous: lid conic, acute. On dry earth, walls and rocks.

rutabulum, stem procumbent: branches erect, sub-simple: leaves lance-ovate, acuminate, one-nerved: peduncles scabrous: lid conic. On the earth and trunks.

cooleyanum, Sl. stem prostrate, bipinnate, with the divisions alternate and opposite: peduncles long, slender, twisted when dry: capsules shortish striate, recurve arched becoming fulvous: leaves recurved, nerveless, teretely, sub-semi-cylindrical, broad at the base, long subulate towards the apex. On decaying logs in swamps.

chrysostomum, procumbent: irregularly branched: leaves laxish, spreading, lance-oval, acuminate, entire, sub-linear: peduncles smoothish: capsules oblong, recurved: lid perfectly conic with a very acute spinose tip: peristome yellow.

triquetrum, stem sub-erect, ramose: leaves deltoid, acuminate, striate, somewhat nerveless, spreading every way: capsule ovate: lid conic, obtuse.

4. *Leaves imbricate, sub-reflexed or recurred.*

fragile, outer peristome has the teeth lanceolate, remotely tubercled, yellow: inner one is a membrane, extended into an equal number of solid, lance-acuminate, very acute teeth, with ciliae a little less than the teeth, capillary, very acute.

stellatum, stem weak, procumbent: leaves ovate, long-acuminate, nerveless, entire, spreading: capsule oblong; lid with an obtuse apex.

squarrosum, stem ascending: leaves keeled, nerveless, ovate at the base, close-pressed, acuminate at the apex, recurved-spreading: capsule ovate: lid short-conic.

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(1) This description, taken from Lk. and Dc. is similar to that given in Turton's Linneus of the serrulatum.

5. *Leaves turned to one side, and circinal-falcate.*

crista-castrensis, stem elongated, somewhat simple, recurvedly and elegantly wing-branched: leaves recurv-curled one-way; subulate with slender lineate nerves: capsules very long-peduncled, oblong, arched; lid conic.

commutatum, stem procumbent, ramose; branches sub-ramose: capsule large, becoming white, striate; peduncles pretty large. In water or mud.

cupressiforme, stem prostrate, sub-ramose: leaves lance-ovate, falcate, nerveless: lid conic.

imponens, very short, somewhat feather-branched, recurved, leaves uncinate, one way nerveless: capsule erect, cylindric, oblong; lid conic, obtusely beaked.

6. *Leaves turned to one side, and not circinal-falcate.*

fluviatile, branches rather long, simple: leaves lance-ovate, laxish, somewhat spreading: capsules oblong, erect-nodding. On rocks under water in rivers, &c.

orthocladon, decumbent, bulbiferous: branches simple: leaves ovate; nerves solid, very entire, lid conic. Flowers monœcious. Calyptre subulate, white. Bulbs in the axils of the leaves, or at the apexes of the branches.

7. *Leaves remote, lax-spreading.*

serpens, stem creeping: leaves laxish, small, lanceolate, acuminate, one-nerved at the base: capsule elongated, obconic; lid convex, mucronate. Shades.

Hyste'rium. Gr. *usteresis*, (poverty, want, making poor.) 1.

pulvicore, gregarious, oblong or oval, striate. On oaks.

quercinum, bursting, flexuose, sub-ventricose, soft, dark-ash-colored. On young branches of oaks.

fraxinum, convex, tumid, oblong-oval, black, sub-concentric: seeds large, oblong, yellow. On dead ash.

lineare, sub-immersed, crowded, parallel, linear, black: lips of the orifice tumid; smooth; disk linear. Dead wood.

I.

Isa'ria. Gr. *isos*, (equal, filaments equal.) 6. Fun.

microscopica, extremely minute, scattered, simple, club-form; white: filaments and seeds not distinct.

mucida, cespitose, effuse: branchlets sub-depressed, forked, nearly soft. On decaying wood. On stalks of grass, &c.

Iridium. Gr. *isos*, (equal in its parts, foot and frond.) 5. Lic.

corallinum, Acn. crust tartareous, greyish-white: podetia at length elongated, round, simple or branched: apothecia brown-grey, corol-like. In crowded patches on rocks.

Jungerman'nia. In honor of Jungermann, a German botanist. 3. Hep. Succulent mosses.

1. Caulescent.

A. *Having stipules.*

1. *Stipules in three rows.*

platyphylla, L. stem procumbent, bipinnate: leaves two-ranked, imbricate, roundish, obtuse: stipules entire, in threes. On bark of living trees. 2 i.

platyphylloidea, Sz. stem procumbent, bi or tri-pinnate: leaves imbricate, vaulted, roundish 4-sided: stipules in threes, sub-equal, entire. Yellowish-green, tinged with brown. On rocks.

distans, Sz. stem diffused, branching, simply pinnate: wings lax: leaves not imbricate, sub-distant, alternate: stipules minute, round, entire, distant. 3 i. In dense tufts on roots of trees, and on wet rocks. Dark green.

porella, Dicks. stem floating, irregularly branched and pinnate: leaves sub-imbricate, largish, oval, obtuse: stipules entire : broad leaves blackish blue. In brooks.

2. *Stipules in a simple series.*

a. *Leaves eared below.*

tamariscifolia, Schm. (1) stem creeping, pinnate: leaves two-ranked, obtuse, very entire; ears vaulted: stipules minute, very entire, two-cleft: calyx 3-cornered, 3-cleft, papillose. On trees and rocks: often dark brown-purple.
dilatata, Weber. (2) stems entwined, creeping, sub-pinnate: leaves 2-ranked, obtuse, entire; lobes of the ears alternately clavate, and alternately very small or none: stipules large, 2-cleft, serrate, especially that of the calyx: calyx 3-cornered, 3-cleft, smooth. On trees. A green variety occurs in large tufts on rocks. Color varies, often blackish. ¾ i.
serpyllifolia, Dicks. stems creeping, filiform, irregularly pinnate, shortish: leaves imbricate, eared; lobes unequal: upper ones largest, ventricose beneath at the base; lower one minute: stipules round, acutely and deeply bifid: green. Among mosses on wet rocks. ½ i.

b. *Leaves not eared.*

* *Leaves entire.*

† *Stipules two-cleft or two-lobed.*

pallescens, Eh. stem ascending, somewhat branched: leaves roundish, very entire, obtuse: stipules obtuse, 2-cleft: segments acute, evanescent. Wet or water.
trichomanes, Dicks. leaves imbricate roundish, very entire: stipules roundish, with 2 obtuse lobes. In woods, on moist earth. 1½ i.

†† *Stipules entire.*

transversalis, Sw. stem creeping, sub-ramose: leaves imbricate, obliquely ovate, obtuse, complicate beneath at the base: stipules sub-orbicular-reniform, inflexed at the margin, very entire. Yellow. On rocks; rarely on trees.
clypeata, Sz. stem creeping, sub-pinnate, many interwoven: leaves imbricate, vaulted, (so that the semi-cylindric sprouts pass out) 2-ranked, obliquely ovate, round, interwoven beneath at the base: stipules orbicular, affixed in the middle like a shield. Whitish yellow. Growing downwards on trees and rocks.

** *Leaves divided.*

† *Leaves emarginate or two-toothed.*

bidentata, L. stem decumbent, ascending and sub-ramose at the apex: leaves with two acuminate teeth: stipules ovate, 4-cleft. Earth. 1½ i.

†† *Leaves with three or four small teeth.*

trilobata, Web. leaves obliquely ovate, retuse, unequally 3 toothed at the apex, and entire in the other parts: stipules 2—4-cleft; shoots from the axils of the stipules. 3 i.
tridenticulata, Mx. stem procumbent-creeping, many aggregated: leaves flat, two ranked, largish, 3-toothed at the apex, sub-oval: stipules broad, roundish, denticulate on all sides; shoots from the axils. Yellow. A variety growing on trees, is dichotomous, dark brown, and smaller. In bogs.
reptans, L. leaves remotish, sub 4-sided, nearly equally 3—4-cleft at the apex: stipules similar to the leaves, 4-cleft. Stem pinnate. 1 i.
sertularioides, Mx. creeping, capillary: leaves bristle-form, 2-parted; bristles jointed: teeth of the calyx bristle-bearing.
laciniosa, Mx. creeping, very branching: leaves 2-cleft, with fringed divisions: calyxes lateral, oblong, a little glabrous: bristles short: stipules like the leaves.
pulcherrima, L. (Labrador.) stem erect, bi-pinnate; branches vaulted at the apex, incrassate: leaves 3 cleft: stipules 2-cleft, very long ciliate. Earth.
ciliaris, L. stem sub-pinnate, decumbent: branches slender: stipules and leaves split, having ciliae rather long. Smaller and lighter colored than the preceding. Rotten logs. 2 i.

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(1) dilatata, of many authors. (2) tamariscifolia, of many authors.

tomentella, Eh. stem ascending, bipinnate, tomentose above: leaves and stipules 4-parted, having ciliae very long, becoming white. 3 i.

pauciflora, Dicks. (Labrador.) stem branched, creeping: leaves and stipules similar, erectly spreading, 3-parted, even to the base: divisions hooked.

B. *Without stipules.*

1. *Leaves eared.*

complanata, L. stem branched, creeping: leaves roundish, very entire: ears sub-ovate, flattish. On smooth bark: very rarely on rocks.

2. *Leaves not eared.*

a. *Leaves not divided.*

* *Leaves very entire.*

viticulosa, L. stem naked (excepting the radicled) ascending: leaves distant, sub-verticillate, a little convex, roundish, beautifully green. Rotton logs. $1\frac{1}{2}$ i.

polyanthos, L. stem creeping, rooting on the back: leaves sub-imbricate, sub-verticillate, little convex, roundish, pale: calyx shorter than the bristle, divided. Moist ground.

lanceolata, L. stem creeping, rooting on the back: leaves imbricate, semi-verticillate, sub-convex, roundish-ovate. Reddish. On rocks and earth in woods, or other damp, cooling shades.

scalaris, Schm. stem creeping, rooting: leaves sub-imbricate, semi-verticillate, convex, roundish, somewhat converging forward. Old logs: handsomely twisted: light-green and purplish.

sphagni, Dicks. stem creeping, with radicles on the back: leaves imbricate, sub-vertical, concave, roundish, converging forward. 3 i.

orbicularis, Mx. small, with a creeping stem: leaves orbicular, entire, rising vertically in a double series. Reddish. On dry side-hills: and perhaps in woods among mosses.

juniperina, leaves quadrifarious falcato-secund, linear-lanceolate biparted; segments straight acuminate. Frond terminal, calyx ovate leafy. 3 i.

cordifolia, leaves erect, concave cordate circumvol. Frond terminal and axillary. Calyx oblong ovate, sub-plicate: mouth minute toothed. 2 i.

** *Leaves toothed.*

asplenioides, L. leaves sub-imbricate, semi-verticillate, oblique, ovate, roundish, having small teeth. Among rocks, on the ground. 3 i.

b. *Leaves divided.*

* *Leaves emarginate, 2-lobed or 2-cleft.*

† *Margin of the leaves very entire.*

emarginata, Eh. stem erect, sub-ramose: leaves approximate, spread-diverging, obcordate, obtusely emarginate, angles obtuse. Moist rocks. $\frac{3}{4}$ i.

funckii, Web. stem ascending, sub-simple: leaves sub-imbricate, spreading, sub-horizontal, emarginate, angles obtusish. Deep red. Among lichens, in dry woods.

inflata, Huds. stem procumbent, sub-simple: leaves remotish, spread diverging, sub-horizontal, concave, acutely emarginate, angles acute. With the last.

curvifolia, Dicks. stem procumbent, branching: leaves sub-imbricate, erectish, 2-cleft, divisions alternated, incurved. Rotten logs.

michauxii, Web? shoots erectish: leaves 2-cleft, approximate, sub-imbricate, spread-diverging, very entire, acutely emarginate, angles acute: fructification terminal: calyx tubular, plaited at the apex.

bicornis, Mueller, stem creeping, sub-ramose: leaves remote, spreading, semi-verticillate, concave, emarginate 2-toothed; teeth acuminate, very acute, converging.

bicuspidata, L. stem flexuous, sub-ramose, creeping: leaves remote, spread-diverging, semi-vertical, flattish, acutely emarginate 2-toothed; teeth diverging.

connivens, Dk. shoots creeping; branches simply pinnate: leaves ovate, emarginate, 2-cleft; teeth acute converging.

ehrhartiana, Web. stem short, decumbent, rooting on the back: leaves imbricate, somewhat spreading, concave, obtusely emarginate, angles acutish.

†† *Margin of the leaves toothed, serrate or crenate.*

undulata, L. stem erect, simple: leaves roundish obtuse, sub-denticulate, undulate; lobes obtuse, a little concave in front, convex behind. Bogs. Smaller than the next: leaves less ciliate.

nemorosa, L. stem erect, sub-ramose: leaves with roundish lobes, tooth-ciliate. Whitish green. Large. A variety almost white, more ciliate: fructification nearly sessile. Possibly a distinct species.

resupinata, L. stem erectish, sub-branched: leaves resupinate; lobes sub-ovate, scarcely acute, denticulate. Reddish. Dry earth; leaves obtuse.

umbrosa, Schrader. lobes of the leaves sub-ovate, acute or acuminate, serrate. Reddish. Dry earth; leaves acute.

albicans, L. stem erect, sub-divided: lobes of the leaf oblong, acutish, furnished with a nerve, serrate at the apex. Whitish yellow: in tufts on the earth.

** *Leaves unequally 3-toothed, or 3-4-5-cleft at the apex.*

pusilla, L. small, creeping: leaves sub-4-sided, plaited, margin in front obtuse, crenate, very entire on the other parts. Light green. On loamy ground. $\frac{1}{4}$ i.

quinquedentata, L. stem erectish, rooting on the back: leaves plaited, 4-sided, querciform below; apex with 3 or 5 acute, very entire teeth.

exsecta, Schm. stem creeping: leaves concave, unequally 3-toothed; teeth acutish, very entire. On earth, in moist woods. $\frac{1}{4}$ i.

incisa, Sz. stem rooting, sub-simple: leaves unequally 3-cleft; divisions channelled on the back, toothed. Moist rocks. $\frac{1}{4}$ i.

decipiens, Hk. stem erect, flexuous, sub simple: lower leaves smaller, very entire; upper ones sub-4-sided, with one or more spinose, scattered teeth. 1 i.

II. STEMLESS.

sinuata, Sw. nearly stemless, frond sub-dichotomous, flat, nerved, margin undivided or sinuate-pinnatifid, very entire, glabrous. A large species. Bogs.

epiphylla, L. frond obovate, lobed, nearly nerveless; lobes sinuate, margin undulate, fruit-bearing above. Banks of brooks. 3 i.

pinguis, L. frond obovate, lobed, nerveless, glabrous, fleshy: lobes sinuate, fruit-bearing below. Wet and water.

multifida, L. frond creeping, bi-pinnatifid, nerveless; divisions narrow, broader at the apex. Wet.

palmata, H. frond short, somewhat ascending, digitate-palmate, nerveless. Dark green. Rotten wood, in wet places.

bipinnata, Sw. frond procumbent, bipinnate, nerveless: segments, towards the apex, attenuated. Shady rocks, among mosses. Small.

furcata, frond linear, decumbent, ramose, forked at the extremity, nerved, the margin at the bottom and on the back of the nerve pubescent, yellowish-green. On rocks and stones. $\frac{1}{2}$ i.

pubescens, Schr. frond linear, branching, forked at the extremity, nerved, all over pubescent. Yellow. On mountains. 1 i.

cilifera, Sz. frond linear, very narrow, branching, not forked at the extremity, but sub-bifid: divisions attenuated, nearly nerveless; leafy at the margin: lobes spatulate, clavate and irregular, sometimes shooting, with intermixed ciliae. Elegant. Green or yellow. In dense tufts on rocks and earth.

oblonga, Sz. frond simple, broad, not lobed, oblong, sub-acuminate; margin undulate, or thick towards the nerves, plaited: on other parts very entire, the apex is sometimes produced into a long linear point. Frond one eighth of an inch in diameter. In water.

Remark. Most of the Jungermannie are in fruit late in the spring: some, however, in the winter; a number are rarely found in fructification.

L.

LAMINA'RIA. Lat. *lamina*, (thin plates.) 4. Alg.

esculenta, stalked, winged with pinnae, and running through the ensiform lamina. 60 i.

saccharina, stalk compressed, expanded into entire linear-oblong laminae. 48 i.

LA'SIA. Gr. *lasios* (hairy.) 2. Mus.

trichomitrion, branch compressed: leaves oval, acuminate, striate longitudinally: peduncles of the length of the calyx: capsule ovate: calyptre profusely hairy. In mountains.

marginata, in very branching fascicles: branchlets erect, tapering, filiform: leaves oval, acuminate, revolute both sides so as to appear as if margined: nerves prominent: capsule oblong; lid subulate.

LEANGIUM. Gr. *leios*, (smooth.) *aggios*, (a capsule or bag.) 6. Fun.

floriforme, yellow, globose, stiped: fruit-covering splitting into beautifully expanded parts. Decaying trunks. 1—12 i.

LECANORA. Gr. *lecane*, (a dish or bowl.) 5. Lic.

atra, crust with a somewhat decided edge, granulated and cracked, greyish-white: disk of the apothecia plane, at length swelling and black; the margin free, raised at length waved and crenulate. 1½ i.

periclea, crust thin, somewhat leprous and dispersed, whitish: disk of apothe. plano-convex, dark, dotted rough: border obscure, powdery. ½ i. Var. *exigua*, crust unequal, obscurely cinereous, black. Apothecia minute, aggregate, flat, with a white crenular border, and brownish edge. ½ i.

sophodes, verrucose-granular, form cinereous, brownish-green. Apothecia heaped with a flat, coarse, dark, disk: brown when moistened, border tumid, inflexed, entire. 1½ i.

subfusca, crust cartilaginous, smooth, at length granulated, unequal, white or greyish: disk of the apothecia plano-convex, brown or almost black; margin tumid, entire, at length waved and crenate. 2 i.

ventosa, crust tessellated, with tumid warts, yellow, green or grey: apothecia appressed, at length irregular, with the disk plane or swelling, red-brown, at length rising above the entire margin. 2 i.

varia, crust unequal, granular, somewhat warted, pale green: apothecia clustered; disk flat, pale-brown and variegated, border raised, inflexed, finely crenulate. ¾ i.

tuberculosa, crust greenish, ash color, with roundish warts, circumference fibrous: apothecia mixed; disk concave, becoming flat, blackish-glaucous, border elevated, thick. 3 i.

glaucoma, crust tartareous, tessellated, even, greyish-white: apothècia immersed in the crust; the disk plane, at length convex, sub-globose glaucous and powdery; margin entire, afterwards obliterated. 2 i.

albella, crust thin, leprous continuous cream-colored, somewhat polished: apothecia sessile, whitish-buff, uneven with a thin white wavy border. 1½ i.

parella, crust granulated or somewhat warted, white: apothecia thick, crowded by pressure, angular: the disk concave, and as well as the tumid, entire margin of the same color as the crust. 2 i.

tartarea, crust tartareous, with clustered granules, greyish-white: apothecia scattered; disk plano convex, a little wrinkled, flesh-color; the margin inflexed, at length waved. 2 i.

salicina, crust granular, unequal, dirty yellow: disk of apothecia flat, becoming convex, somewhat orange-colored: border thin, crenulated, becoming entire and flexuose. 1½ i.

lentigera, crust somewhat imbricated, white: lobes somewhat concave, flexuose cut-crenate: disk of apothecia flat, yellowish brown; border elevated, tumid. 1½ i.

elegans, crust somewhat imbricated, plaited and rugose-tawny, orange, naked: lobes linear-lanceolate, waved, convex, somewhat distant radiating: disk of the apothecia concave, of the same color with the crust; margin somewhat inflexed, entire. 1 i.

galactina, crust sub-imbricated, rugulose, whitish, lobed and crenulate at the circumference: fructification crowded angular: the disk plane, brownish, flesh-color, pruinose with a raised and at length crenate, flexuose border. 1½ i.

candelaria, crust scaly yellow, lobes very much crowded, cut and laciniated, imbricated, their margins minutely granular: apothecia nearly of the same color as the crust; margin elevated, entire. 1 i.

brunnea, crust imbricated, greyish, lobed and granulated, ash-colored brown: apothecia imbedded in the crust, crowded irregular: disk rather convex, red brown, the margin elevated, crenulated, persistent. 1 i.

Lecide'a. Gr. *leceo*, (to crack.) 5. Lic.

atro-alba, crust spreading, very thin, cracked, black, with swelling whitish scattered areolae: apothecia plane or slightly convex, often in the interstices black; of the same color within. 3 i.

lapicida, crust tartareous, cracked, whitish ash-color: apothecia within the spaces of the crust depressed, flat, finally convex, somewhat confluent, dark, with a thin edge. 3 i.

pretrae'a, crust thin, roundish, very finely cracked, somewhat powdery, white: apothecia grown into the crust, thick, protuberant, somewhat concentrical, dark colored, with a tumid, elevated contracted margin. 1½ i.

parasema, crust thin, sub-membranaceous, greyish white, borded with black, at length spreading, somewhat granulated: apothecia nearly plane, sessile, margined, black; blackish within. 3 i.

sabuletorum, crust scattered, granular, irregularly lobed, cinereous whitish: apothecia clustered, convex, sessile, plano-convex, hemispherical, somewhat confluent; dark powdery inside 1½ i.

silaceae, crust tartareous, tessellated, yellowish red: apothecia sessile, plane, at length convex, irregular, confluent, black; internally cinereous and black, 2 i.

immersa, crust thin, whitish: apothecia plano-convex, immersed in the stone, margined, dark; disk pruinose; when moistened crimson; white inside. 4 i.

albo-caerulescens, crust tartareous, contiguous, even at length, somewhat tassellated and whitish: apothecia sessile and elevated, plane, black, with a grey bloom and a a black smooth border. Var. *turgida*, crust of a regular figure, contiguous, whitish caesious: apothecia immersed; disk depressed, hollowish. 3 i.

atrata, crust thin, in little cracks, punctate, very black: receptacles in the crust, wart-form, one-colored; disk urceolate. Dry rocks.

emeroleuca, crust sub-cartilaginous, becoming cinereous: receptacles close-pressed, flattish, somewhat margined, dark: white within. On bark of trees and decaying woods.

alba, crust sub-determinate, membranaceous, somewhat cracked, white, with conglomerated, cinereous, or greenish milky dust at length scattered over it: receptacles minute, close-pressed, flat, dark. On trunks of trees.

asserculorum, crust effuse, thin, unequal, dark sooty: receptacles sessile, a little plano-concave, dark; one-colored within. On timber and dead wood.

urceolata, crust cartilaginous, membranaceous, determinate, rugose, cracked, glabrous, very white: receptacles sessile, urceolate, white hoary; corneous and livid within, under the disk; margin inflexed, sub-coarcate. On bark of trees.

corticola, crust sub-tartareous, grandular-areolate, unequal, very white: receptacles minute, sub-immersed, grey hoary; at length sub-globose, emarginate, naked, dark: becoming cinereous within. On the bark and trunks of trees.

Receptacles dark fuscous, or becoming fuscous, blended with some other color.

spadicea, crust cartilaginous, unequal, sub-granulated, becoming white cinereous: receptacles thick, flat, fuscous-liver-brown, at length becoming dark; margin very thin, and a little wrinkled; at length a little convex, with the margin evanescent; color uniform within. On bark of trees.

varians, crust sub-membranaceous, cracked, afterwards granulated, becoming green cinereous, with dark limits: receptacles small, crowded, yellowish, fuscous and dark, impressed in the middle, sub-emarginate. On the bark of ash trees, &c.

russula, crust sub-cartilaginous, rugose, areolate-rimose, becoming pale green, with dark limits: receptacles sessile, glabrous, a little tumid, red-fuscous; the disk higher than the pale, thin, entire margin. On bark of trees.

pineti, crust very thin, dirty pale cinereous: receptacles sessile, minute, aggregated, urceolate, yellowish flesh-color, entire. In pine woods, on roots, &c.

sanguineoatra, crust thin, membranaceous, effuse, light green cinereous; at length sprinkled over with granulated dust: receptacles hemispheric, sub-emarginate, somewhat glabrous, dark purple, and at length black.

Receptacles red, or light flesh-colored.

icmadophylla, crust leprous-like, unequal, sub-granulated, whitish green: receptacles sub-sessile, flat, flesh-colored, at length flexuous; the disk a little wrinkled; the margin thin, or none. On the earth, on trunks and decaying wood.

cupularis, crust sub-tartarous, whitish green: receptacles superficial, urceolate, white; disk light brick-color, scattered pulverulent spots on the outside. This is a variety of *marmorea*, of Acharius. On lime and slate rocks.

Receptacles pale, becoming yellow, wax-colored and orange.

lutea-alba, crust thin, smooth, white: receptacles crowded, at length convex, hemispheric, margined, yellowish red; white within. Var. *holocarpa*, has a dirty cinereous yellow crust, and minute, flattish, yellowish orange, sub-obliterated receptacles. On the bark of trees; rarely on rocks.

Crust deformed or foliaceous.

globifera, crust imbricate, fuscous: lobes round, entire, or sub-lobed, flexuose, sub-rugose; white beneath: receptacles at length sub-emarginate, sub-globose, obscurely reddish-yellow. On rocks.

decipiens, crust sub-imbricate: lobes somewhat separated, sub-peltate, roundish, flesh-colored, and becoming fuscous: white beneath: receptacles marginal, convex and sub-globose, sub-emarginate, black. On the earth, particularly lime-stone mountains.

sorediata, crust orbicular, rugose-plicate, imbricate, cinereous; margins of the lobes elevated, and bearing the fruit-dots; dark beneath, with spongy fibres: receptacles scattered, close pressed, flat, dark.

demissa. Ach. crust warty, sub-imbricated; lobed at the margin: receptacle reddish, depressed. On earth and rocks.

subulatorum, crust effuse, granulated; in some parts lobe-branched, white-cinereous: receptacles crowded, sessile, plano-convex, hemispheric, sub-confluent, somewhat margined, dark: somewhat dusty within, one-colored. Var. *geochroa*, is fuscous-cinereous: receptacles sub-globose, often crowded into conglomerate masses, and shining. On earth and decayed moss.

LEMA'NEA. In honor of Leman, a French botanist. 4. Alg.

fluviatilis, filaments simple, papillose. Papillae usually ternate. Articulations five times as long as broad. 6 i.

LEO'TIA. Gr. *leiotes*, (smooth.) 6. Fun.

infundibuliformis, cap depressed, cinereous, livid, smooth on each side: stipe solid, smooth. On the ground. 3 i.

nana, small, cap rugose, white beneath, smooth brown: stipe solid cylindrical, white. On trees. ½ i.

LEPRARIA. Gr. *lepra*, (leprosy, scaly.) 5. Lic.

chlorina, crust thick, pulvinaceous, bright sulphur-color, composed of a dust-like substance, collected into somewhat hairy glob.

flava, crust spreading, equal, thin, somewhat cracked, bright-yellow, composed of sub-globose granules.

virescens, crustaceous, granulated, continuous, somewhat gelatinous; greyish, dull-green when dry; bright-green when wet.

farinosa, crust very thin, membranaceous, becoming white; suffused with white conglobated dust. On bark of old trees.

LEPTOSTRO'MA. Gr. *leptos*, (thin,) *stroma*. (layer.) 6. Fun.

scirpinum, orbicular, opake, bossed in the centre, at length entirely separating: disk whitish. On the scirpus, &c.

LESK'IA. In honor of Leske, a German botanist. 2. Mus.

compressa, decumbent: branches 2-ranked, facing two ways, compressed: leaves lanceolate, flattish, somewhat extended: capsule oblong, straight; lid conic. On trunks of trees.

acuminata, creeping: branches short, sub-simple: leaves lance-acuminate, extended, facicled: capsule erect; lid oblique, conic. On trunks of trees.

imbricata, creeping: branches shortish, simple, erect bearing flowers: leaves extended, ovate, acutish, imbricate: capsule oblong, erect; lid conic.

gracilescens, creeping: branches somewhat simple: leaves acute, lanceolate, extended, imbricate-spreading: capsule straight; lid conic. On the earth.

rupincola, creeping: branches somewhat simple, rising: leaves cordate acuminate imbricate, spreading: capsule cylindric, erect. On rocks.

fasciculosa, creeping: branches often crowded together in fascicles, short, simple: leaves cordate, extended, imbricate: calyx extended, long-acuminate: capsule nodding. In damp places.

varia, creeping: branchlets simple, erectish, varying in length: leaves concave, spreading, lance-acuminate: calyx and leaves oblong, extended, fascicled: capsule nodding.

squarrosa, creeping: the foliation somewhat 2-ranked, depressed, lax-imbricate, with squarrose hooks behind; leaves lanceolate, slenderly acuminate: calyx rather long, linear subulate: capsule nodding in an arch. Damp places.

Leucodon. Gr. *leukos*, (white,) *odous*, (tooth.) 2. Alg.

martinicensis, leaves entire: whorls many-flowered, capitate.

Li'cea. Gr. *liknon*, (corn-fan.) 6. Fun.

circumscissa, gregarious, sessile, yellowish or brownish sub-globose: the upper half of the fruit-covering lid-like: seeds rarely mixed with a filament or two. Under bark.

Lichi'na. From its resemblance to lichens. 4. Alg.

pygmea, frond flat with spherical tubercles. ¼ i.

Lo'phium. Gr. *lophos*, (eminence.) 6. Fun.

mytelinum, somewhat stalked, dilated upwards, striated across, shining. Pine bark.

Lycoga'la. Gr. *lukos*, (wolf,) *gala*, (milk.) 6. Fun.

punctata, cespitose, round punctate, sub-cinereous.

miniata, globular, gregarious, red changing to brown: seed orange-red, at length purple-gray. Rotten wood.

Lycoper'don. Gr. *lukos*, (wolf,) *perdo*, (explosion.) Wolf puff-ball. 6. Fun.

bovista, large, obconic, soft, whitish, plicate beneath: scales broad, often indistinct: at length blackish and spherical. 3 i.

pratense, white, soft, hemispheric, sub-sessile, smoothish, with scattered warts. Pastures. 2 i.

umbrinum, turbinate, a little bossed, cinereous, at length brown; rough with slender warts; gregarious. Pine woods.

pyriforme, dirty-grey, base tapering; top pointed: scales thin; roots long fibrous. Moist ground. 1½ i.

excipuliforme, large, white, variable, fruit-converging sub-globose, covered with spine-like warts; stipes smoothish, long plicate. Pastures.

Lyng'bya. In honor of Lyngbye, a Danish botanist. 4. Alg.

muralis, filaments stiffish, curved, wavy, thickish, with lax rings. 1—12 i.

M.

Marchan'tia. In honor of Marchant, a French botanist. 3. Hep.

polymorpha, L. (brook liverwort. O. g-y. Ju. 24.) pistillate receptacles radiated, staminate ones peduncled, peltate: fronds crowded together, lobed, nerved and covered with small decussate veins. 2 i. Pistillate peduncles very long: nerves of the frond generally brown. On earth and stones, in wet or damp places.

hirsuta, Sw. (Nov.) pistillate receptacles hemispherical, sub-entire, margin hirsute; staminate ones sessile, roundish, plano-convex: fronds very broad, brittle, simple, or dichotomous at the apex: margin undulate. Dark green: fronds generally dichotomous, and lobed; lobes rounded, undulate, and often crenate: 2—3 inches long, and one wide; pistillate, peduncles short.

hemispherica, L. pistillate receptacles sub-hemispherical, nearly entire, sub-4-sided: divisions of the proper calyx obtuse: fronds smaller, crenate: beneath dark red; above beautifully green. On rocky ground. 1½ i.

conica, L. pistillate receptacles conic-ovate, somewhat angular; staminate ones sessile: frond long, creeping, verrucose, sinuate. On moist banks, wall, stones, &c. 2 i.

crinita, Mx. (Summer.) small margin of the frond colored, erose-crenate: lobes roundish: pistillate receptacles sub-globose, 5-lobed; with long filaments proceeding from between them: margin and lower surface of the frond purple. On flat rocks.

androgyna, recept. of the female hemispherical, half 4-cleft, of 4 cells.

tenella, L. small: frond fork-dichotomous, narrow: pistillate receptacle sub-conic, with a many-cleft membrane below: divisions ligulate-linear: peduncles longish, delicate. Receptacles 3-cleft: divisions rounded. Frond green: beneath purple.

Mees'ia. In honor of David Meese. 2. Mus.
uliginosa, stem simple, short: leaves linear, obtuse: capsule pear-form; lid obtuse. In marshes.

Meru'lius. Lat. *merulius* (morel, fungus.) 6. Fun.
lachrymans, effused, large, yellow rusty or orange: margin white and cottony: veins large, forming irregular sinuosities. Decaying wood. Dry rot.

Mesogloi'a. Gr. *mesos* (middle) *gloios* (viscid.) 4. Alg.
vermicularis, frond yellowish-brown. Branches divaricating. 5 i.

Mitrata. Lat. *mitro*, (turban.) 6. Fun.
paludosa, yellow, sub-gregarious: cap orange-yellow, obtuse, hollow: margin connate, with stipe. In wet places. 1 i.
abietis, gregarious, solid: seed-bed ovate, yellow: stipe slender, dark brown, flexuose at the base. Spruce and fir woods. ½ i.

Mnium. Gr. *mnion* (moss.) 2. Mus.
hornum, leaves lance-ovate, serrate: peduncles curved: capsule ovate, pendulous; lid obtuse.
palustre, stem erect, elongated, branching: leaves lanceolate, keeled, acute; upper ones bent over to one side: capsule oblong, sub-erect; lid conic, acute. In damp woods and fens.

Moni'lia. Lat. *monile*, (ornament, necklace.) 6. Fun.
aurea, in beautiful tufted heads, golden yellow, stiped. On rotten wood.
frutigena, stemless, cespitose, roundish, white-cinereous: thread, mould-like, with ovate articulations.

Morchel'la. German, *morchel*, (latticed mushroom.) 6. Fun.
esculenta, cap round or oval; margin contracted round the stipe: areoles much hollowed: stipe white, dilated towards the base. 3 i.
patula, cap obtuse separate as far as the middle: areoles rhomboid: stipes smooth. Earth, damp and middling. 3 i.
semilibera, cap short, conic, spread at the base: areoles shallow, partly formed of parallel ribs; stipes long-equal: thick white. Woods. 4 i.

Mougeo'tia. In honor of Mougeot, a botanist. 4. Alg.
genuflexa, filaments kneejointed. Articulations six times as long as broad. 1—12 i.

Mu'cor. Gr. *mukes*, (a small mushroom.) Mouldiness. 6. Fun.
stercorea, byssus-like, or hair-like, white becoming yellowish: stipes erect or lax, simple, bearing a small globule at the end. On manure. 2 i.

Myriococcum. Gr. *murios*, (a thousand,) *kokkon*, (seed.) 6. Fun.
precox, tubercles superficial, deformed, confluent, resembling spherias. On dead leaves. ¼ i.

N.

Naemate'lia. Gr. *naima*, (gelatine,) *eileo*, (to enwrap or roll up.) 6. Fun.
encephala, sub-sessile, powdery, plait-wrinkled, pale flesh-color, becoming dry. On dead pine and flesh. ½ i.

Neckera. In honor of Necker, a German botanist. 2. Mus.

1. *Leaves 2-ranked.*

pennata, foliage 2-ranked, compressed; leaves lance-oval, acuminate, nerveless; disk undulated: capsule immersed in the calyx (pericheth,) lid sub-conic and somewhat cuspidate. On trunks of trees.
macropodia, decumbent, sub-ramose: leaves flattish, lanceolate, facing two ways: capsule cylindric, strait, terminating in a long bristle.

2. *Leaves imbricate every way.*

cladorhizans, creeping: branchlets spreading and somewhat 2-ranked: summit rooting in some: leaves somewhat depressed-imbricate, oval, acute, nerveless: capsule cylindric; lid somewhat conic, oblong, obtuse; columella exsert. On trees.
seductrix, creeping: somewhat ascending: branchlets erect, in some places fascicled: leaves closely imbricate in a cylinder, oval, acuminate nerveless: capsule cylindric; lid from the base conic, shortish, cuspidate.
viticulosa, stem ascending, simple or with few branches: leaves lax, from the side of the base ligulate-obtuse: capsule oblong; lid conic, long-cuspidate, small. On trunks of trees.

Nephro'ma. Gr. *nephros* (a kidney.) 5 Lic.
resupinata, thallus, greyish-brown, pale, pubescent, and granulated beneath: fertile lobules very short: apothecia, large, numerous reddish.
Nidula'ria. Lat. *nidus*, (nest.) 6. Fun.
striata, obconic, hirsute, brown, striate inside. On rotten leaves, &c. ½ i.
crucibulum, bell-cylindric, truncate at each end, somewhat downy, ochre brown, smooth and pale, yellow inside. Pine bark. ¼ i.
campanulata, campanulate, villose, ash-brown, lead-color and shining within. ½ i.
Nostoc. Gr. *nostos*, (turning, god of mills.) 4. Alg.
commune, frond expanded, deformed, plaited, wavy. 2 i.
pruniforme, frond globose, watery inside. Integument coriaceous, very smooth. ¼ i.

O.

Onyge'na. Gr. *onux*, (a hoof,) *geinomai*, (to bear or produce.) 6. Fun.
equina, stipes short, sub-fibrous: fruit-covering scabrous, closed; seeds ovate. On decaying hoofs. ¼ i.
Opegrapha. Gr. *ope*, (crack,) *grapho*, (to write.) 5. Lic.
macularis, crust very thin, brownish-black: apothecia minute, much crowded, roundish, elliptical, at length rugose, irregular; disk very narrow.
herpetica, crust somewhat membranous, very finely cracked, rugose roughish, cinerious-brown: apothecia minute, innate, clustered, convex, elliptical, oblong, straight, with a crack-like disk.
epipasta, crust very thin, of a regular figure, polished cinereous: apothecia, innate, minute convex, rugulose, opake, various; smaller dot-like; longer, very slender, flexuose, somewhat branched.
abnormis, crust thin, softish, white: receptacles immersed, very thin, short and long, flexuous, confluent, rugose-crisped: scarcely any distinct, margin and disk. On the hard bark of trees.
rimalis, crust effuse, becoming cinereous: receptacles sessile, oblong, straightish, simple, tumid: disk channelled, concave; margins elevated, sub-inflexed, parallel. On bark of trees.
vulvella, Ach. receptacles elliptic, gaping in the middle.
vulgata, crust between cartilaginous and membranaceous, somewhat scaly, smoothish, greyish-white: apothecia sessile, long or roundish, waved, somewhat shining, with the disk very narrow.
notha, crust cartilaginous, lep white: apothecia scattered, sessile, round and oval, deformed; disk flat, becoming convex.
Or'thotri'chum. Gr. *orthos*, (straight,) *trichos*, (hair.) 2. Mus.
cupulatum, peristome simple; teeth with pits, capsule immersed, sub-sulcate: calyptre globe-bell-form, glabrous: stem ramose: leaves lance-ovate.
strangulatum, peristome simple; teeth 16, entire: capsule immersed, sulcate, contracted in the middle: leaves lanceolate, sub-entire, obtusish: stem cespitose, erect, sub-ramose: calyptre campanulate, with 8 furrows.
coarctatum, inner peristome 8-toothed: germ exsert at the extremities: plaited.
striatum, teeth of the inner peristome 16, lanceolate, erose: germ immersed, smooth: leaves lanceolate.
Ozo'nium. Gr. *ozos*, (a branch.) 6. Fun.
auricomum, irregular, rigid, diverging from a common centre when young: afterwards stragging: filaments tawny-yellow, compressed: sizes various. On decaying wood. 3 i.

P.

Palmelia. Lat. *palma*, (palm.) 4. Alg.
protuberans, frond thick, angular-lobed. Granules elliptical. ½ i.
botrioides, fronds aggregate, minute, globose. Granules globose.
cruenta, frond crust-like, crimson.
Parmelia. Gr. *parme*, (shield,) *eileo*, (to enroll.) 5. Lic.
scortea, thallus roundish, sub-coriaceous, whitish, smooth, finely dotted with black, hispid beneath: lobes longish sinuate-crenate cut: apothecia rufous-brown. 1½ i.
perforata, thallus orbicular, glaucous, green, naked, with black fibres on the under side; lobes rounded, cut, flat, somewhat plaited at the edge: apothecia rufous. 3 i.

herbacea, thallus orbicular, membranaceous, bright green above, beneath pale brown, almost white and downy; lobes waved and cut, the segments rounded, sub-crenate, apothecia red, the margin inflexed, rugose and crenate. 1½ i.

olivacea, thallus orbicular, olive-brown, rugged, with elevated points, paler beneath and fibrous; lobes radiating, appressed, plane, dilated, rounded and crenate: apothecia dark-brown: the margin crenulated. 2 i.

parietina, thallus orbicular, bright-yellow; beneath paler and fibrillose; the lobes radiating, appressed, plane, dilated, round, crenate and crisped at the extremity: apothecia of the same color as the crust, their margin entire, rounded, crenate and crisped at the extremities. 2 i.

tiliacea, thallus orbicular, membranaceous, glaucous, ash-colored, blackish brown beneath; lobes sinuate cut, the end ones roundish crenated. Apothecia brownish with an entire edge. 6 i.

saxatilis, thallus orbicular, greyish, rough and pitted, beneath black and fibrillose; the segments imbricated, sinuated, plane, subretuse. Apothecia bright chesnut brown, their margin sub-crenulated. 2½ i.

aquila, thallus orbicular, tawny brown, paler beneath with blackish fibres; the segment multipartite, nearly linear, convex, those of the circumference dilated, nearly plane and crenate: apothecia dark brown, their margin crenated. 4 i.

conspersa, thallus orbicular, greenish yellow, smooth with blackish dots, brown and fibrillose beneath: segments sinuate-lobate rounded crenate, nearly plane: apothecia central, chesnut-brown, with the margin nearly entire. 1½ i.

speciosa, thallus stellated glabrous, greenish-white, beneath snowy-white, with greyish fibres: the segments imbricated linear plane, cut and branched crenate, their extremities ascending and powdery: apothecia central brown with a tumid singularly rough and crenated border. 2 i.

pulverulenta, thallus stellated, deep, glaucous-green, caesious and pruinose when dry, beneath black, downy and hispid; the segments linear, multifid in the circumference, plane appressed, waved retuse at the extremities: apothecia glaucous black, the margin entire and waved, at length leafy.

stellaris, thallus stellate at length rugged and granulated, greyish-green, beneath with grey fibres: the segments sublinear, rather convex cut-multifid; apothecia glaucous black, their margin entire, at length waved and crenate.

caesia, stellate, greyish-white and glaucous sorediferous, ash-colored beneath with black fibres; segments linear, cut-multifid convex but plane at extremities: fructification sub-concave black with a sub-inflexed border.

physodes, thallus sub-stellated glaucous white, beneath brownish black; the segments sinuate, multifid, convex, glabrous, inflated and ascending at the extremity: apothecia red-brown, their margins entire.

caperata, (shield lichen. O.) frond orbicular, pale yellow, becoming green, rugose at length granulated, dark and hispid beneath; lobes plicate, sinuate-lacinate, roundish, somewhat entire: receptacles scattered, sub-frescuous: margin incurved, entire, at length pulverulent. Var. *cylisphora*, smoothish, naked; lobes gash-crenate: receptacles of the central lobes margined, elevated, small. On old timber, &c.

galbana, frond orbicular, smooth, becoming cinereous, the outer margin leaden-blue, with dark punctures, dark beneath, hispid with spongy fibres; lobes imbricate, flat, sinuate-lacinate, crenate: central receptacles concave, dark-purple, shining; margin entire. On old wood.

placarodia, frond orbicular, smooth, pale-livid, sprinkled with black elevated specks, glabrous rugose, milky beneath, with dark cinereous impressions; divisions plicate, concrete, round crisped crenate at the apex: receptacles scattered, elevated, light fuscous, somewhat concealed by the inflexed, rugose, crenate margin. On decaying wood.

crinita, frond orbicular, from white becoming pale glaucous, scabrous, with scattered grains and corol-like branchlets; dark glabrous, a little rugose beneath; rarely fibrous; divisions rather long, sinuate-lobed at the margin, and close-crenate, ciliate, obtuse at the apex.

rudiata, frond orbicular, pale cinereous, becoming green; thickly bent with corol-like opophyses of an uniform color; dirty white, wrinkled, fibrous beneath; divisions concrete, undulate-plicate, roundish at the margins, torn-crenate: receptacles scattered, small, obscurely fuscous; margin thin, at length rugose-crenate. On old wood.

sub-marginalis, frond membranaceous, smoothish, becoming cinereous; very dark beneath, becoming fuscous at the periphery: receptacles somewhat margined, concave, fuscous, wrinkled outside: margin simple. On trunks of trees.

setosa, frond stellate, becoming white glaucous; becoming ragged beneath, with the dark hispid, ramose, interwoven fibres: divisions many-cleft, linear, separated, flat; magins here and there bearing fruit-dots; ciliae very dense and long.

michauxii, frond somewhat olive-color, a little shining: divisions convex, sinuate-lobed, dilated at the apex: receptacles chesnut-fuscous. On rocks.

congruens, frond stellate, becoming pale white and fuscous-cinereous beneath; the fibres and impressions uniform colored; divisions many-cleft, lax, flexuose: margins recurved, flattish and crenate at the apex: receptacles elevated, concave, liver-like; margin entire. On trunks of trees.

centrifuga, frond orbicular, with greenish white zones receding from the centre; white beneath, with fuscous-cinereous fibres: divisions concrete, convex, rugose. parted dichotomously, obtusish: receptacles with reddish-fuscous peripheries; margins sub-entire. On mountains and rocks.

diversicolor. frond sub orbicular, golden yellow. concrete with the rugose, narrow. torn-ramose divisions. white with age: becoming white cinereous beneath. and the impressions uniform colored: receptacles crowded, concave, dark red, margin thick. at length white.

hypoleuca, frond stellate, white, glabrous, naked, very white, soft. sub-tomentose beneath, with hispid dark marginal fibres: divisions linear. many-cleft, flat: receptacles scattered, sub fuscous, at length black; margin inflexed, at length crenulate. On trunks of trees, on and among mosses.

lophyrea, frond stellate, white, dark, smooth, naked, excavated-punctate beneath; divisions linear, flat, flexuose, sinuate, many-cleft: receptacles reddish; margins sub-crenate.

granulifera, frond orbicular, white, hoary, and granular, sprinkled over with snow-white heaps of globules, glabrous, one colored beneath. fibres and impressions dark; divisions flat, many-cleft, tooth-crenate: margins naked: receptacles dark fuscous; margin inflexed, granulated. Among mosses on trunks of trees.

conoplea, frond orbicular, becoming glauscous green, here and there covered with granulated dust, becoming blue; dark, with spongy fibres beneath: divisions with flattish, round-lobed, crenate, naked outer edges; margins elevate, pulverulent: receptacles reddish yellow. On mosses and trunks of trees.

obsessa, frond orbicular, white, beset with a corol-like excrescence; apex fuscous; dark, fibrous beneath; divisions with a separate, solitary periphery, erose, many-cleft, flat: receptacles central, flat, dark fuscous; margin granulate-toothed. On the bark of trees.

aipolia, frond stellate, becoming white cinereous, grey and naked: white beneath, with dark fuscous fibres; divisions all sub-connate, flattish, many-cleft and lobed: receptacles dark grey-hoary. On the bark of trees.

ulothrix, frond stellate, cinereous-glaucous, sub-livid: dark fibrous beneath: divisions separated, linear, dichotomous, many-cleft, flat. sub-ciliate: receptacles dark fuscous; margin entire, ciliate-fibrous beneath. On bark, and trunks of trees.

cristulata, frond orbicular. becoming green glaucous; divisions very smooth, flat, periphery round, incumbent, gash-crenate; all spongy, and dark beneath; sub-inflated at the apex: receptacles red; margin entire. On the roots of trees.

colpodes, frond sub-stellate, becoming pale green, divisions many-cleft, smooth, naked, flattish; sub-inflated at the apex: dark, ragged beneath: receptacles sub-fuscous; margin sub-rugose. On bark of trees.

enteromorpha. frond sub-stellate, becoming whitish green: divisions elongated, sub-divided, effuse, lax, sub-rugose, inflated; dark, rugose-plicate beneath: receptacles liver-brown; margin entire. On trunks of pines, &c.

PELTIDE'A. Gr. *pelte*, (target or shield.) 5. Lic.

venosa, thallus greenish, ash-color; white beneath, having dark brown prominent branched veins; lobes rounded, cut, somewhat entire: apothecia marginal, plane, rounded, swelling, brown, scarcely crenulate at the margin.

scutata, thallus ash-colored: whitish and veiny beneath; the lobes rounded, sinuated and cut, crenate and crisped; fertile lobules very short: apothecia orbicular, ascending, nearly plane brown, somewhat entire.

horizontalis, thallus glaucous and brownish green, lobed, crenulate and shining; pale beneath, with numerous brown, branching, reticulated veins: fertile lobules abbreviated: apothecia terminal, plane, horizontal, transversely oblong, reddish brown, with a nearly entire margin.

aphthosa, thallus green, smooth, roundly lobed, sprinkled with brown warts; whitish beneath, with brown branching veins; fertile lobules very long, contracted in the middle; their sides reflexed: apothecia terminal, large, ascending, red-brown, with a lacerated margin.

canina, thallus greyish green, with broad, rounded lobes: white beneath, with brownish branching veins: fertile lobules rather long, with their sides reflexed: apothecia terminal, nearly erect, revolute, reddish brown, with a sub-crenulated border.

polydactyla, thallus coriaceous, green, naked, glabrous, with brown reticulated veins beneath: fertile lobules very numerous, elongated, and as well as the brown, terminal: apothecia cucullato-revolute.

Pori'na. Gr. *porinos*, (crumbling.) 5. Lic.

pertusa, crust equal, polished, whitish ash-colored. Warts of apothecia sub-globose. Orifices several, depressed, black.

leioplaca, crust smooth, equal, becoming white-cinereous: warts of the receptacles sub-globose: mouths many, depressed, black. On the bark of trunks of trees. Very common.

fallax, crust sub-effuse, glabrous, plicate-rugose, olive-cinereous: warts of the receptacle crowded, irregular, depressed above, sub-margined with a sub-gibbose, flexuose, tumid periphery; mouths solitary and numerous, sub-confluent, deformed, black. On bark of trees.

papillata, crust smooth, broken-rimose, becoming white: warts of the receptacle convex: mouth elevated, solitary, papilla-like; pore, reddish-yellow, pertuse. On bark of trees.

globularis, crust thin, granulated, becoming white cinereous, granulations crowded, white, sub-globose and branching: warts of the receptacles thinly scattered, globose, glabrous; mouth solitary, impressed, punctate, black.

Penicil'lum. Lat. *penicillum*, (sponge.) 6. Fun.

glaucum, densely tufted, spreading: heads of seeds at length glaucous. On rotten vegetables. 1—12 i.

Peri'ola. Gr. *peri*, (about,) *iolos*, (hairiness.) 6. Fun.

tomentosa, round, deformed, downy-white. On potatoes.

Pezi'za. Lat. *pezica*, (mushroom.) 6. Fun.

1. Tremelloideae. *Substance more or less tremulous.*

inquinans, in groups, large, dark-stained, at length convex, ob-conic: rugose and brownish outside. Often grows in long series in autumn, along hewn or cut timber.

sarcoides, cespitose, fleshy-tremulous, somewhat firm in texture, flesh-red, somewhat veiny outside. In autumn, on cut decaying trunks, &c.

cinerea, in groups, small, cinereous or pale, sub-tremulous: margin whiter, sub-erect. On decaying trunks and branches, in spring and autumn.

2. Helvelloideae. *Larger, fleshy membranaceous, fragile, externally sub-farinaceous.*

aurantia, stemless, cespitose, halved-flexuose, golden yellow, white externally. P. coccinea. Bull. In autumn, on roots and decaying trunks, &c. 1 i.

umbrina, large, cespitose, contorted, brown. On sandy grass-ground, &c.

badia, almost stemless, entire, margin sub-involute, obscurely fuscous, externally somewhat olive-colored. An inch and a half broad. In autumn on the earth, on trunks, &c. in woods. 1 i.

depressa, sub-orbicular, sessile, depressed, reddish-yellow. Var. *applánata*, cinnamon color, expanded; flat and rugose above, paler beneath. In fields on the margin of rivers, &c.

acetabulum, wineglass-form, stiped: pileus angled outside: veins branching: color earth-brown-fuscous. Stipe thick, lacunose as in some species of Helvella. In shades. ½ i.

3. *Mostly small. Whole pileus strigose-hirsute, pilose, tomentose, or pubescent.*

hemisphærica, in groups, pretty large, hemispheric; white glaucous within, brown outside. Half an inch broad. In autumn on the earth, rarely on trunks.

scutellata, largish, spread flattened, reddish yellow outside; hispid with dark diverging bristles. On wood in damp places.

coccinea, stiped, largish, turbinate or funnel-form: scarlet within, white without and somewhat downy: margin mostly crenate. In the spring on the earth and dead limbs. ⅓ i.

anomala, stiped, crusty-crowded, turbinate: dry crisped, ferruginous or fawn-color: mouth converging, paler. In spring and autumn on dry fallen branches. ½ i.

4. *Mostly small. Wholly glabrous (or at least not manifestly tomentose) fleshy or wax-like.*

(Pileus stiped.)

bolaris, largish, sub-solitary: pileus orbicular funnel-form: outside often rugose-veiny and a little fibrous: stipe thick, becoming dark at the base, shortish. In autumn on dry stipes, &c.

cyathoidea, in groups, small, white or pale: pileus wineglass-form, unarmed, rather thin: stipe long, a little thicker, downwards. On the dry stems of large herbs; stipes about the fourth of an inch long. 1-6 i.

lutescens, small, somewhat in groups, becoming yellow: pileus orbicular: stipe thin, cylindric. On the decaying wood of firs, &c.

pallescens, crowded, glabrous, white, at length becoming pale: pileus somewhat funnel-form: stipe rather thick. On trunks of beech, &c. ⅛ i.

(Pileus sessile.)

leucoloma, narrow, depressed, spread, minute; margin white, finely torn. On walls and moss in the spring.

5. *More or less coriaceous, dry, glabrous or pulverulent, mostly sessile.*

leucomela, bursting, sessile: pileus concave: dark outside and white within. Sometimes on hazel branches.

patellaria, in groups, dark, spread flattened, sub-coriaceous, distinctly margined. On dry branches of basswood and sometimes on trunks of oak.

pinastri, scattered, sub-stiped, dark-shining, margin acute. On the bark of pines and firs, &c.

Phacid′ium. Gr. *phakos*, (lentil,) *eidos*, (appearance.) 6. Fun.

coronatum, orbicular, sub-hemispheric, depressed, black, dehiscent, in numerous acute segments; disk pale green or yellowish. On dead oak leaves.

Phallus. Gr. *phallos*, (a badge worn at the festivals of Bacchus.) 6. Fun.

impudicus, volva large: stipe cellular white: cells of the pileus contain a greenish, fetid seed, bearing slime. Fences. 8 i.

preputiosus, stipe sieve-like, sub-incurved: involucrum indusium-like, fetid. Near fences, and on rotten trunks.

caninus, head closed on the stipe, ovate, impervious, pink-color. On rotten trunks. 4 i.

Phas′cum. Gr. *phaskon*, (moss.) 2. Mus.

patens, caulescent, erect: capsule about sessile: leaves lance-ovate, serrate at the top, spreading.

muticum, stemless: capsule sessile: leaves ovate, without points, concave, converging.

cervicollum, sub-caulescent: the leaves of the pericheth strait: peduncle incurved: capsule ovate. On dry, gravelly earth.

subulatum, caulescent, erect: leaves lance-linear, spreading; the summits, from the broadish base, subulate, rigid: capsule sub sessile.

coherens, sub-caulescent, simple: leaves ovate, acute, nerves solid, serrulate, erect: capsules with short bristles.

Phle′bia. Gr. *phleps*, (a vein.) 6. Fun.

vaga, effused, soft, sulphur-color; circumference expanded and byssus-like; plaits distant, irregular. On trees.

Pho′ma. Gr. *phoma*, (pustule.) 6. Fun.

populi, mostly many-celled, roundish, flat, brown-opalline; orifices obsolete. On dead poplar leaves.

Phy′sarum. Gr. *phusa*, (bladder.) 6. Fun.

cinerium, sessile, globe-ovate, cinereous; reticulate within with white threads. On trunks in autumn.

farinaceum, stiped: bark of the fruit very thin, mealy-villose, cinereous. On pine branches, on moss, &c.

nutans, head globose, flattish beneath, bluish grey, nodding: stipes thin, weak, white, not furrowed: seeds and filaments dark brown. On rotten wood. i.

aureum, seed-covering sub-globose, yellow: stipes slender, longish, brown-grey: seeds globose. On decaying trunks. 1—12 i.

Pilo'bolus. Gr. *pilos*, (a cap,) *ballo*, (to throw.) 6. Fun.

crystallinus, stem-like receptacle inflated upward (rarely filiform) a pointed capitular vesicle, round depressed, black. Var. *roridus*, has a globose receptacle with oblong filiform stipes; capitular vesicle dot-like black. In horse manure. ½ i.

Pilo'trichum. Gr. *piloo*, (to press together) *trichos*, (hair.) 2. Mus.

pilotrichum, stem 2-pinnate; branches 2-ranked, pinnate: peduncles arched: calyptre sub-pilose.

Pistilla'ria. Lat. *pistillum*, (pestile.) 6. Fun.

quisquiliaris, thickened towards the extremity, white, confluent with the stipes. On dead fern leaves. ¼ i.

Polyan'gium. Gr. *polus*, (many,) *aggion*, (capsule.) 6. Fun.

vitellinum, size of a grain of sand: concreted granulated seeds. On damp trunks.

Polypo'rus. Gr. *polus*, (many,) *poros*, (hole or pore.) False boletus. 6. Fun.

heteroclitus, sessile, orange; cap imbricate, lobed, villose; pores large deformed. On the earth.

perennis, cap leathery, velvety zoned; pores minute and at length lacerated; plant cinnamon color; stipe central. On trunks of trees. 3 i.

versicolor, cap mostly reflexed, leathery villose, variegated by zones of different colors; pores round, white, short. On trees. 1 i.

reticularis, fine, resembling byssus, fugaceous white; pores distant, cup-form, powdery. On pine wood. 2 i.

Polysipho'nia. Gr. *polus*, (many) *siphon*, (siphon.) 4. Alg.

coccinea filaments very much branched. Primary, not jointed. Branches decompound, pinnatifid. Pinnules heterogenous, multifid fascicled. 4 i.

nigrescens, filaments much branched, at the end diffuse. Lower articulations very short, when dry nodulose; upper about as long as broad, with 3 veins. 6 i.

Polythrin'cium. Gr. *polus*, (many) *thrigkos*, (little partitions.) 6. Fun.

trifolii, appears to the eye as numerous black dots, of unequal size; but each is a tuft of filaments: the filaments are moniliform, clavate. On clover leaves.

Polytri'chum. Gr. *polus*, (many) *trichos*, (hair.) 2. Mus.

1. *Capsules with apophyses.*

juniperinum, (hair-cap moss. O. M. 2′.) stem generally simple: leaves lance-linear, entire, flattish, somewhat spreading: the apophyses depressed. In dry woods, &c.

piliferum, stem simple: leaves lanceolate, entire, bearing hairs at the apex: apophysis depressed. In dry, sunny places.

perigonale, simple, largish: leaves serrate: those of the pericheth differing, elongated, membranaceous, ending in a capillary form: capsule 4-sided; lid orbicular, with a short apex in the centre; apophysis under the capsule.

2. *Capsules without apophyses.*

capillare, stem short, simple: leaves few, laxish, linear, aculeate-serrate: peduncles longish, capillary: capsule erect, sub-ovate; lid convex, abruptly mucronate, slender, longish.

brachyphyllum, stemless: leaves conglobate at the root, very short, oblong oval, apex obtuse and thickish: capsules sub-corneous, obovate, sub-oblong; lid with a short apex.

brevicaule, stemless: leaves very few, lower ones close-pressed, dilated into an oblong form, upper ones mucronate-subulate, obscurely denticulate: capsule erect, oblong-cylindric: lid convex, long-mucronate, inclined.

Porphyra. Gr. *porphuros*, (purple.) 4. Alg.

laciniata, frond flat with numerous dilated segments.

Pte'rigophyl'lum. Gr. *pteris*, (wing,) *phullon* (leaf.) 2. Mus.

rigidum, stem erect, pinnate above: leaves sub-2-ranked, obovate, mucronate, serrate, 2-nerved.

Pte'rigynan'drum. Gr. *pteris*, (wing) *gune*, (pistil.) 2. Mus.

intricatum, creeping and rooting entangled: branches simple, short: leaves concave, acuminate, lanceolate, lengthened out: capsule oblong-ovate; lid sub-oblique. On trunks of trees.

julaceum, stem erect, teréte: leaves thick-imbricate, oval, acuminate, smooth: peduncles scarcely projecting out of the long pericheth: capsules short-ovate; lid conic: calyptre glabrous. On trunks of trees.

brachycladon, stem creeping; branches very short, crowded, erect, simple, teréte, acutish: leaves lance-ovate, acuminate, nerveless: capsules erect, sub-cylindric, with a long, conic, sub-oblique lid.

hirtellum, branchlets slender-filiform, simple, short: leaves imbricated in a cylinder, sub-cordate, a little hirsute, fringed: capsule oblong; lid long-conic. On trees.

sub-capillatum, creeping, rarely rising, simple, flower-bearing: leaves ovate-acuminate with a halved prolongation, imbricate: capsule oblong; lid beaked: calyptre sub-pilose.

Ptilo'ta. Gr. *ptilotos*, (pinnate or pinnatifid.) 4. Alg.

plumosa, jugament filiform compressed. Pinnules opposite pectinate-cut. 4 i.

Puccin'ia. Gr. *puka*, (close-packed.) Blight. 6. Fun.

rubi, deep-black tufted: seeds 4-celled obtuse-mucronate: stipes slender condensed at the base. Under bramble leaves.

avicular, punctiform, minutely tufted, roundish, black-brown; seeds crowded, obtusely ovate with a long flexuose, filiform pedicel. On knot-grass.

polygoni, minute, round, crowded, brownish-red: upper cell of the seed thick globose, the lower one long and narrow: stipes short. On the P. amphibium, under the leaves.

variabilis, in minute tufts, black, nearly circular, bordered by the remains of the old cuticle; seeds variable; stipes short.

graminis, tufts dense, oblong, often confluent, forming long parallel lines in the direction of grassy fibres: color yellowish brown, becoming black: seeds elongated with the upper cell shortest, containing dust: stipes filiform. On wheat and other grasses. Called rust or blight.

globosa, minute, scattered, blackish: seeds globose with filiform slender stipes. On bean leaves.

Pyre'nula. Gr. *puron*, (kernel.) 5. Lic.

nitida, crust cartilaginous, membranous polished, pale, brownish cinereous. Warts of apothecia closed, closely surrounding the upper projecting part of the thalamium. 1½ i.

umbonota, crust tartareous, regular, finely cracked, cinereous, rufous. Warts of apothecia smooth, reddish, depressed above, forming a margin to the papilla-like prominent orifice. 1½ i.

R.

Raco'dium. Gr. *rakos*, (a rag.) 6. Fun.

cellare, soft, lax, interwoven, of a greenish black, filaments intermixed with irregular granules. In sooty cellars.

rupestre, compact, black, adnate to rocks.

xylostroma, very broad, soft, ochre yellow, spreading among the cleavages of decaying wood. Oak-leather, spunk, tinder.

papyraceum, white thin paper-like. Paper-spunk. Spreading among the cleavages of decaying wood.

Ramali'na. Lat. *ramalina*, (a little branch.) Many branches. 5. Lic.

fraxinea, thallus plane, linear-laciniated, greyish white, glabrous, but rugose and pitted, sub-reticulated: the ultimate branches attenuated: apothecia mostly marginal, plane, pale, flesh-colored.

fastigiata, thallus compressed, glabrous, pitted, branched, glaucous, white, branches thickened and fastigiated upwards: apothecia numerous, terminal peltate, sub-sessile, white.

farinacea, thallus compressed, glabrous, somewhat pitted, bearing powdery warts, rigid branched, greyish or greenish white. Branches linear attenuated: apothecia scattered on short stalks, plane, somewhat margined, whitish.

pollinaria, thallus flat, somewhat membranous, smooth, a little pitted, white, torn, occasionally powdery, with dilated, flat soredia: apothecia nearly terminal, very large.

homolea, frond compressed, 2-edged, smooth, naked, ramose, becoming pale-white, sub-ramose crosswise; branches dichotomous attenuated: receptacles scattered, affixed at the centre, a little concave, somewhat margined, uniform colored.

polymorpha, frond flat-compressed or teretish, torn-branched, pale, longitudinally lacunose: fruit-dots scattered, sub-elliptic and terminal, head-form: receptacles sub-marginal, a little concave; disk fleshy, somewhat hoary. On rocks and stones.

Rhizopo'gon. Gr. *riza*, (root,) *pogon*, (beard.) 6. Fun.

albus, round, sub-rugose, whitish-brown, fibrous at the base. Roadsides. ½ i.

Rhodome'la. Gr. *rodos*, (red,) *melos*, (a limb.) 4. Alg.

dentata, frond flat, obsoletely ribbed, alternately bipinnatifid. Pinnae linear cuneate. Pinnules cut. Thecae urceolate. 4 i.

lycopodioides, stem filiform, covered with setaceous, densely imbricated scale-like processes. 6 i.

Rhytis'ma. Gr. *rutis*, (wrinkle.) 6. Fun.

corrugatum, minute, innate on the surface, rugose plaited, open with many zigzag cracks. On lichens.

Riccia. In honor of Ricci, a botanist of Florence. 4. Alg.

natans, (floating liverwort. O. Ju.) fronds obcordate, with apexes meeting so as to form the sectors of circles, flat: radicles beneath flat. It floats on the water, with its short flat roots extending a little distance into it. Color sea-green. Each congeries of floating fronds hardly an inch in diameter. Channels run on their backs, like midribs in leaves. ½ i. by ¼.

fluitans, (forkstems. O. J.) fronds repeatedly forked, linear, convex or sub-cylindric, smooth, reticulate, obtuse and cloven at the tips. Very plenty from Lake Superior to Boston, in water, among lemna. It is pellucid and cellular, 2 or 3 inches long. It has nothing resembling a root; but the whole plant appears rather like the stems of some plants.

glauca, frond radiating from a centre, dichotomous, flat, reticulate. ½ to 1 i.

lutescens, Sz. frond dichotomous or trichotomous. thick at the apex, inflexed and bifid at the margin: lobes at the margin free: the middle nerve with radicles impressed above, convex beneath. substance porous, standing out from tubercles filled within with minute granulations. In dried swamps, forming yellow patches two inches in diameter. On the earth, largish, orbicular and confluent. Is this an American species?

Rivula'ria. Lat. *rivulus*, (a brook.) 4. Alg.

atra, frond hemispherical hard. Filaments very dense, branched by apposition. 1—12 i.

angulosa, frond globose, hollow. Filaments simple. ¼ i.

Roccel'la. Portuguese *roccha*, (a little rock, its place of growth.) 5. Lic.

tinctoria, thallus rounded, glaucous, green, somewhat branched, nearly erect: apothecia scattered, elevated; disk flat, caesious, pruinose, as broad as the border.

Rubi'go. Lat. *rubigo*, (rust, blight, mildew.) 6. Fun.

alnea, irregularly tufted, confluent, whitish, at length reddish brown. Under alder leaves, &c.

S.

Schistid'ium. Gr. *schistos*, (split.) 2. Mus.

ciliatum, stem ramose: leaves lance-ovate, concave, denticulate: calyptre very long.

Schizophyl'lum. Gr. *schizo*, (to cut,) *phullon*, (a leaf.) 6. Fun.

commune, cut or torn in appearance, gregareous. On trunks of living trees. 2 i.

Sclerode'rma. Gr. *skleros*, (hard.) *derma*, (skin.) Bark puff-ball. 6. Fun.

citrinum, middle-sized, roundish, long-rooted, pale lemon, obsoletely scaly; scales thickish. On oak roots. 2 i.

cepa, globose, sub-depressed, firm, smooth or warty, sessile; stipe short, thick; scarcely any root. In cultivated fields. 2 i.

spadiceum, gregarious, somewhat spotted, smooth, brown: root hard fibrous. On beech trunks, &c. 1 i.

Sclerotium. Gr. *skleros*, (hard.) Dwarf puff-ball. 6. Fun,

semen, separate, spherical, whitish yellow, becoming black and wrinkled, white inside; sometimes clustered. On dead leaves. ⅛ i.

scutellatum, orbicular, flattened, at length somewhat concave in the middle, fixed beneath by a central filamentous point. On leaves of trees, underside.

durum, deep black, oval or elongated, at length sub-striate or rugose, white within. On dead herbaceous stems.

Scytone′ma. Gr. *skutos*, (leather,) *nema*, (thread.) 4. Alg.

byssoideum, filaments simple, erect, very short, flexuose-crisped, entangled in a black layer. 1 i.

Scytosi′phon. Gr. *skutos*, (leather,) *siphon*, (siphon.) 4. Alg.

filum, frond quite simple. 240 i.

Sepedo′nium. Gr. *sepedon*, (putrescence.) 6. Fun.

mycophilum, spreading widely within putrefying agarics and boletuses: filaments white: seeds profuse, orange-yellow. On dying fungi.

Septa′ria. Lat. *septum*, (partition.) 6. Fun.

ulmi, spherules aggregated: seeds 3 or 4 times divided: tendril often becoming effused. On elm leaves.

Sistotre′ma. Gr. *sunestemi*, (to compound,) *trema*, (pore.) 6. Fun.

confluens, pores in regular series, gregarious becoming concrete, fragile, scentless, white becoming yellow. On road sides. 1 i.

cinereum, imbricate, suberose: pileus halved, hirsute, cinereous beneath. On trunks of trees.

violaceum, halved, imbricate, tomentose, white becoming violet beneath. On trees.

quercinum, glabrous, pale, reddish yellow: teeth thick, deformed, gashed, sub-close pressed. On oak branches.

cerasi, small, orbicular, gibbose, pale, downy at the margin: teeth various, thick, close pressed. On branches and roots.

Sole′nia. Gr. *solen* (a tube.) 4. Alg.

intestinalis, frond tubular inflated simple. 24 i.

Solori′na. Gr. *solos*, (solid,) *rinos*, (rind, skin.) 5. Lic.

crocea, thallus green, (brown and dry,) lobed, beneath veiny, and of a fine saffron-color: apothecia somewhat tomentose brown. 1½ i.

Spatula′ria. Lat. *spatula*, (plaster-knife.) 6. Fun.

flavida, pileus pale becoming yellowish: stipe pale. On dead leaves. 1½ i.

Sphacella′ria. Gr. *sphakelos*, (mortification.) 4. Alg.

racemosa, filaments twice or thrice dichotom. Articulations as long as broad. Tubercles ovate, racemose, on branched peduncles. 1 i.

radicans, filaments branched, rooting, straight. Branches scattered, simple erect obtuse, tapering at the base. Articulations twice as broad as long. ¾ i.

cirrhosa, filaments much branched, five striated. Branches alternate, somewhat pinnated. Articulations as long as broad. 1 i.

Sphae′ria. Gr. *sphaira*, (globe.) 6. Fun.

1. *Caulescent, or the receptacle elongated, clavate, corky, furnished with a trunk.*

bulbosa, (globule fungus. S.) on the earth, sub-ramose, glabrous, dark-cinereous: root tuberous. On the earth in autumn in pine woods.

hypoxylon, gregarious, ramose, compressed, hirsute at the base. On decaying trunks of trees.

digitata, cespitose, black: stipes glabrous, connate at the base, clavate, terete: apex acuminate, sterile. In woods.

polymorpha, gregarious, forms various: clavules (little clubs) ventricose, surrounded every where with spherules. In beech woods. On trunks of trees.

2. *Receptacle without a stem, roundish and opening: tubercle with bordering spherules.*

concentrica, obovate and somewhat roundish, large; interrupted with concentric layers within. On trunks of the ash and willow.

rubiformis, large, wholly black, spherules globose, a little prominent. On dry trunks.

fragiformis, gregarious, sub-confluent, rust-colored, dark-shining within: spherules papillose. On beech trunks.

argillacea, scattered, sub-globose, clay-colored, or yellow-cinereous: spherules a little prominent, papillose; substance softish, becoming sooty-yellow. On trunks of ash trees.

rubiginosa, opening widely, rugose, yellow, becoming rust-colored: spherules somewhat concealed. On branches in shady places.

cohaerens, gregarious, confluent, flattish; at first dirty yellow, smooth; at length dark colored and somewhat blistered. Adhering to the trunks of trees, particularly the beech.

melogramma, somewhat in rows, bursting, ob-conic, dark-sooty: spherules somewhat prominent. Bursting from under the cuticle of branches or trees, particularly the beech.

ribesia. bursting, soft, oval, sub-depressed: spherules dissected, growing white. Bursting from under the cuticle of the branches of the Ribes rubrum in the winter.

3. *Form various, opening, orbicular or round: spherules scattered, horizontal, immersed in fleshy coverings: little mouths scattered, mostly somewhat prominent, papillose or aculeate. Compound.*

deusta, opening widely, thick, undulate-rugose. blistered: at first fleshy, white-cinereous, pulverulent, at length black, rigid. On trunks in woods; frequent.

lenta, aggregated, sub-orbicular, black: disk gibbose; margin repand. On the trunks and roots of fallen beech trees; found in autumn.

insitiva, compound, cortical, flat, linear-acuminate, white, single-headed; a veil connate, with the substance of the fungus; spherules papillose, black. In the fissures of the cuticle on decaying grape vines.

macula. compound, of various forms, very flat, black, single-headed: spherules globose-acuminate, covered with a fugaceous veil. On dry oaken branches, after long storms.

serpens, open, unequal, naked, becoming dark-colored: spherules somewhat prominent. On oak and beech wood; sometimes on willow.

stigma. opening around, smooth, ramose; little mouths immersed, flattish. In the fissures of thorn trees.

podoides, crowded together, hard, unequal: little mouths spinose, mostly bursting at the sides. On trunks of oak.

ceratosperma, roundish, convex, scattered: little mouths spinose, bursting from the middle. In the bark of the Rosa canina, in July.

disciformis, scattered, orbicular, flattish, smooth: little mouths immersed, resembling punctures. In the dry cracks of beech, resembling pimples of a dark shining color, white-cinereous within.

4. *Opening, spherules horizontal, at first solitary at the margin, afterwards confluent, not joined with a fleshy substance or manifest layers; some are distant, but in some way connected by the crust.*

nebulosa, grey: spherules very minute, scattered, forming unequally linear, interrupted dark grey spots: little mouths prominent, sub-acute. On the stems of large herbaceous plants.

velata, covering very broad: spherules scattered, immersed. covered with a sub-membranous crust: little mouths sub-prominent. Under the cuticle of the Tilia.

spiculosa, somewhat opening, dark-stained: little mouths long, terete, very slender. Immersed in dark colored branches.

5. *Spherules heaped together on the receptacle, which is crust-like, conic, in little cespitose bunches; little mouths converging towards the middle.*

ciliata, roundish: spherules nested in the prominent substance of the bark; little mouths very long, divaricate, sub-flaccid. On the branches of elms.

fimbriata, upon leaves, sub-circinal: little mouths spinose, clavate, surrounded at the base by a white fringe. Frequent on the leaves of the Carpinus.

nivea, conic, with a white, farinaceous disk: little mouths prominent, papillose. On the dry branches of poplars.

leucastoma, disk truncate, white, perforated with blackening pores. On the stems and dry branches of plum trees and cherry trees of our orchards.

pustulata, sub-lenticular, with short, contracted necks: disk sooty, perforated with one pore. On willow branches.

6. *Spherules arranged in a circle, decumbent naked, nesting under the epidermis; little mouths approximate, mostly bursting.*

pulchella, compassed about, naked: little mouths very long, flexuose. Under the cuticle of the branches of the common garden cherry tree.

coronata, compassed about: little mouths thick, obtuse, smooth. On the branches of the thorn tree; rare.

faginea, compassed about: little mouths hooked and rugged. On the branches of the beech.

convergens, compassed about, concealed, naked: spherules ovate, erectish; little mouths strait, somewhat bursting. Nesting in the substance of the bark of some branches.

tessella, compassed about, bound with a black line: little mouths distant, or with 4 or 5 black punctures. On willow branches.

7. *Bursting in a roundish, cespitose bunch: spherules free among themselves, papilla-like, setting on the receptacle.*

decolorans, cespitose, reddish cinnabar color, becoming pale: spherules globose, rugose tubercled. On the branches of maple and elder.

coccinea, cespitose, pale red: spherules ovate, smooth. In the dry bark of beech and elder.

8. *Spherules solitary, free, destitute of receptacles.*

(Little mouths very large, mostly compressed, nearly equalling the breadth of the spherules.)

episphaeria, simple, gregarious parasitic, red: spherules very minute, sub-compressed, crested, flaccid. On the sphaeria stigma.

(Little mouths terete, spinose, equal to the length of the spherules or exceeding them.)

rostrata, simple, naked: spherules granulated: little mouths very long, spinose. On decaying branches in July.

acuta, gregarious, naked: spherules black, shining, sub-globose: little mouths spinose, thickish, cylindric. On the stem of the common nettle in the spring.

(Little mouths shorter than the spherules, conic or cylindric, mostly papillose.)

porphyrogona, simple, aggregated, black, phial-form, imbedded in a thin, violet-colored crust. Persoon considers this species of Tode, as a variety of *rubella*. On the Atropa belladonna.

araneosa, simple, opake, black: spherules papillose, smooth, covered with a thin white veil. On dry branches.

byssiseda, largish: spherules globe-papillose, surrounded with thick sooty yellow down. On dry branches and bark.

spermoides, heaped together, opake, rigid: spherules globose, sub-terete downwards; little mouths papillose, obsolete. On dry trunks of trees.

bombarda, simple, fascicled, becoming sooty-yellow: spherules elongated, sub-ventricose; little mouths are acute papillae. Grow in heaps on decaying trunks of trees.

lingam, simple scattered, sub-oval, depressed-concave, rugose with folds: little mouths irregular, decumbent, or almost wanting. Grow densely on the dry stems of red cabbage.

herbarum, simple: spherules scattered, smooth, mostly sub-depressed; little mouths papillose. On dry stems of herbaceous plants.

pertusa, scattered: spherules immersed, ovate, hardish, sub-rugose; perforated at length with little caducous obsolete mouths. In hard dry wood.

inquinans, simple, scattered, dark-stained: spherules somewhat prominent, with wood, perforated. On the Acer, Lonicera and Xylosteum.

(Spherules not furnished with visible mouths.)

pulvis-pyrius, simple, headed together: spherules ovate and roundish, tubercled, rugose, furrowed in the middle. On trunks and dry wood.

moriformis, gregarious, simple: spherules tuberculate, obovate. On dry trunks, particularly of pines.

maculiformis, on leaves, simple: spherules sub-immersed, minute, roundish, conglomerate in unequal black spots. On the dry leaves of beech hazel, maple and elm.

SPHAERO'BOLUS. Gr. *spharia* (globe) *ballo*, (to throw.) 3. Hep

stellatus, globose, pale-yellow: orifice regular stellate, toothed. On wood. &c.

Sphaerocar'pus. Gr. *spharia*, (a sphere) *karpos*, (fruit.) s. 3. Hep.

terrestris, frond simple ovate. Thecae pyriform, clustered at the base of the frond. ½ i.

Sphaerococ'cus. Gr. *sphairo* (a sphere) *kokkos* (seed.) 4. Alg.

ruber, stem scarcely any. Laminae chained, obsoletely ribbed, cuneate 2-forked or lanceolate. Thecae rugose sessile in the disk of the frond. 4 i.

membranifolius, stem filiform dichotom. Branches expanded in cuneiform multifid laminae. Thecae stalked ovate couline. 6 i.

laciniatus, frond cartilaginous, membranaceous, dichotomous or palmate. Segments obtuse, somewhat proliferous. Thecae immersed in minute unequal processes. 3 i.

Sphaeronae'ma. Gr. *sphaira*, (globe) *naima* (gum.) 6. Fun.

subulata, fruit-covering conic subulate acute yellowish sub-pellucid: globule pale. On toadstools. &c. 1—2 i.

Sphaerophoron. Gr. *spharia* (sphere) *phero* (to bear.) 5. Lic.

coralloides, thallus palish-brown; branches lateral, elongate, lax, divaricate and forked, acuminate. Apothecia sub-globose, smooth.

compressum, thallus white, branched: branches compressed ramulose, sub-fibrillose, naked. Apothecia sub-globose, depressed and smooth above.

Sphag'num. Pliny's name for moss. 4. Mus.

latifolium, (peet moss. O.) leaves ovate, sub-obtuse, concave, imbricate, converging at the apex: capsules spherical.

acutifolium, stem sub ramose: branches filiform: leaves lance-ovate, revolute, erose at the truncate apex; imbricated 5-ways.

cuspidatum, stem flaccid: branchlets lax, bristle-form: leaves lanceolate involute, truncate-erose, lax.

Spilo'ma. Gr. *spilo'ma* (spot, stain.) 5. Lic.

versicolor, crust somewhat cartilaginous, powdery, cracked, variegated with cinereous and yellow. Apothecia immersed, superficial, roundish, finally confluent. 3 i.

melaleucum, (efflorescent lichen.) crust thin, sub-membranaceous, unequal, sub-pulverulent, white: receptacles deformed, a little convex, scabrous, dark. On bark of trees.

Splach'num. Gr. *splagchnon* (moss.) 2. Mus.

ampullaceum, (umbrella moss;) leaves lance-ovate, acute: apophysis purplish-green, broad, inversely bladder-form.

setaceum, stem covering: leaves lanceolate, gradually becoming setaceous-acuminate: apophysis clavate-turbinate. Marshes, &c.

Sporider'mium. Gr. *sporos*, (seed) *derma*, skin.) 6. Fun.

atrum, black, crowded: filaments linear-oblong, 4 or 5 times divided. On herbs.

Sporoch'nus. Gr. *spora* (seed) *chnoos* (down, lock of hair.) 4. Alg.

pedunculatus, receptacle elliptical lateral, as long as peduncle. 6 i.

Sporotrichum. Gr. *spora* (seed) *thrix* (hair.) 6. Fun.

macrosporum, a dusty hoariness interspersed with minute tufts: filaments few and branched. On apple leaves.

sulphureum, yellow irregular tufts: filaments entangled: seed numerous sub-globose. On casks in cellers.

Spuma'ria. Lat. *spuma* (froth.) 6. Fun.

alba, effused, frothy: fruit covering furnished internally with grey-horn-like processes inclosing brown seeds. On rotten grass and wood. 1 i.

Stachylidium. Gr. *stachos* (a spike) *eidos* (appearance.) 6. Fun.

candidum, filaments branched, erect, remotely jointed, scattered, white: seed globular. On dead wood.

Stemoni'tis. Gr. *stemon* (stamen.) 6. Fun.

typhina, scattered, small, fibrous, cylindric, obtuse, sub-incurved, sub-evanescent. On trunks.

lencostyla, gregarious, creeping: fruit ovate, violet: stipe white. All white at first: in autumn on leaves and branches.

fasciculata, crowded, cylindric: stipes black arising from a shining underlaying membrane: fruit-covering fugaceous dark-brown: stipes continued to the summit of the fruit-covering. On rotten wood. ¾ i.

papillata, dark-brown globose, with stipes perforating the pileus to the summit. On rotten wood. i.

Stereocaulon. Gr. *stereos* (hard) *kaulon* (stem.) 5. Lic.

paschale, thallus greyish branches and rough, with granulated excrescences; branches crowded and very much divided: apothecia scattered and terminal at length, convex, conglomerate, blackish-brown.

ramulosum, becoming pale-white ramose, scabrous, fibrous branches scattered, elongated, sub-simple: receptacles terminal, at length sub-globose, dark-fuscous. On mountains.

STIC'TA. Gr. *sticktos* (dotted.) 5. Lic.

crocata, thallus dark, glaucous, brown, pitted, with broad, rounded, spreading entire lobes, having bright lemon colored powdery spots upon the margin and on the elevated parts between the pits; downy and tawny.

aurata, S. frond pinnate, round-lobed, nearly even, light brown rust-color, scarcely glaucous; margin wavy, with gold-colored powder; brown beneath, with a few small yellow pits. Found in Western, Massachusetts, by Dr. Porter. Circular, 4 i. diameter.

pulmonacea, thallus pitted and reticulated; olivaceous downy beneath, smooth, with prominences; the segments sinuate-lobate, truncated: apothecia sub-marginal, plane, reddish; their margin rugose.

sylvatica, thallus wide, rusty brown, naked and pitted; brown and downy beneath, with small, pale, excavations; segments lobed and obtusely cut, unequal: apothecia marginal, dark brown.

anthrapsis, frond pale-cinereous fuscous, lacunose-reticulate, very broad, sub-crenate in the round-lobed periphery; rugose, sub-villose beneath: fruit dots white: receptacles scattered; disk black, at length convex, and excluding the entire frond-like margin.

STILBOSPO'RA. Gr. *stillbo*, (to shine) *sporos*, (seed.) 6. Fun.

asterosperma, capsule stellate.

macrosperma, capsules elongated, cylindric. On the limbs of beech and birch.

profusa, in heaps: seeds very minute, equally 2-celled. On branches of maple, button wood, &c.

STIL'BUM. Gr. *stilbos*, (shining.) 6. Fun.

vulgare, head roundish, whitish, watery or gelatinous, becoming firm and yellowish: stipes thickish-cylindric. On decayed stems.

STIC'TIS. Gr. *stictos*, (a dot.) 6. Fun.

radiata, immersed, orbicular, radiated: limb snow white, ragged, pulverulent. On bark of trees, in circular spots.

STACHYLI'DIUM. Gr. *stachos*, (a spike) *eidos*, (appearance.) 6. Fun.

candium. filaments branched erect, remotely jointed, scattered, white seed globules. On dead wood.

SYNTRI'CHIA. Gr. *sun*, (together) *trichos*, (hair.) 2. Mus.

rurarlis, stem ramose: leaves obtuse, recurved, with hairs at the apex. On walls.

T.

TARGIO'NIA. In honor of Targioni, a botanist of Florence. 3. Hep.

hypophylla, frond flat, imbricated, lobed; lobes rounded, retuse. ¼ i.

TET'RAPHIS. Gr. *tetra*, (four.) 2 Mus.

pellucida, stem elongated: leaves ovate-acuminate: those of the pericheth lanceolate: capsules cylindric.

THAMNID'IUM. Gr. *thamnos*, (rod or twig.) 6. Fun.

elegans, filaments branched, whorled: seed covering elevated. On manure. 1—12 i.

THELE'BOLUS. Gr. *thelè*, (nipple) *ballo*, (to throw.) 6. Fun.

stercoreus, sub-globose, saffron-color, gregarious, sessile. On manure. 1—12 i.

THELE'PHORA. Gr. *thele*, (a nipple) *phero*, (to bear.) 6. Fun.

1. *Pileus entire, funnel-form.*

aryophyllea, various: pileus funnel-form, tan, becoming fuscous-purple, strigose-hirsute; margin mostly gashed, or somewhat crisped. Among pines, &c. on the earth. 1½ i.

2. *Pileus halved, at length horizontal.*

rubiginosa, imbricate, rigid reddish chesnut brown, glabrous both sides: papillae large, scattered. On trunks of oaks, mossy beeches, &c. 2 i.

THELOTRE'MA. Gr. *thele*, (nipple,) *trema*, (an orifice.) 5. Lic.

hymenium, crust cartilaginous, uneven, somewhat polished, greenish-grey, at length extremely tumid and uneven: apothecia elevated, crowded, hollow very irregular. 4 i.

TIM′MIA. In honor of Timm of Malchin. 2. Mus.
cucullata, leaves linear, narrow-acute, serrulate : capsule nodding.

TO′RULA. Lat. *torus* (bed.) 6. Fun.
herbarum, filaments densely crowded so as to form a thick black bed or crust. On dead stems.

TREMAT′ODON. Gr. *tremo*, (to tremble,) *odonta*, (tooth.) 2. Mns.
longicollis, stem short, simple: peduncles very long, twisted.

TREMEL′LA. Lat. *tremulus* (trembling.) 6. Fun.
mesenterica, roundish: sub-compact, undulate, plicate, orange-color. On fallen limbs, &c. 2 i.
fragiformis, roundish: sub-compact, round, red, plicate, thick-set, sub-lobate. On pine bark, &c.
spiculosa, flattened, effuse, thickish, black, having conic papillae. 2 or 3 inches, on trunks.
foliacea, large, cespitose, glabrous both sides, thin undulate-pilicate, concave, crisped at the base, flesh-cinnamon color. On decaying trunks in autumn.
undulata, ascending, membranaceous, lobed, sinuate-undulate, purple. On putrid wood.
abietina, in groups, roundish, orange color, sub-plicate. On wood.
dubia, cespitose, viscous, fastigiate, soft, fleshy. On decaying trunks late in autumn.
intumescens, sessile, clustered, tumid, plaited, a shining brown: lobes twisted, On trunks of trees. 2 i.
sarcoides, sessile, gelatinous, red-purple, at first club-form, then round-lobed, plaited or curled, finally blackish. On rotten wood. ¾ i.

TRENTEPOH′LIA. Named after an obscure German botanist. 4. Alg.
purpurea, filaments dichotomous, cespitose, entangled, very minute: articulations about twice as long as broad. 1—12 i.
aurea, filaments flexuose, collected in a dense, soft, cushion-like tuft. 1—12 i. Branch long, spreading, rigid: articulations about twice as long as broad.

TRI′CHIA. Gr. *trichos*, of *thrix*, (hair.) Pin-heads. 6. Fun.

1. *Fruit turbinate, or pear-form.*

botrytis, stiped, fascicled, opake, becoming dark red: stipes elongated, connate, sub-racemed. On decaying trunks in autumn.
rubiformis, stiped, fascicled, steel-color, shining: stipes connate, sub-pedate, short. On trunks in woods at the close of summer.
fallax, simple, stiped, at first red, then slate-color: fruit plicate beneath, with a stipe. On trunks and soft decaying wood in autumn.
vulgaris, scattered, fruit from terete, becoming sub-turbinate: hardly any stipe, becoming black. On beech trunks after a summer storm. A variety of *nigripes*. See Persoon's Fungi, p. 179, and Muhlenberg's Catalogue.
ovata, crowded, obovate, ochre yellow, bursting at the summit. On rotten wood.

2. *Fruit round, or reniform.*

nitens, crowded together, sessile, round, shining yellow, or cinnamon-color. Among decaying beech and pine trunks in autumn.
varia, scattered, becoming yellow: fruit decumbent and reniform, sometimes round. On trunks.

3 *Fruit filiform and net-veined.*

reticulata, diffused, reticulate, ramose, yellow. On trunks and mossy bark in autumn.

TRICHODER′MA. Gr. *trichos*, (hair) *derma*, (skin.) 6. Fun.
viride, in roundish tufts of white, interwoven filaments: seed profuse, green, at length giving the whole a green color. On rotten wood.
nigrescens, somewhat opening, flattish: seed-dust becoming black and sooty. On maple trunks, cut down in winter or spring.

TRICHOS′TOMUM. Gr. *trichos*, of *thrix*, (hair) *stoma*, (mouth.) 2. Mus.
pallidum, (hair-mouth moss.) stem simple, very short: leaves capillary, sheathing: capsule ovate, with a slight apophysis, cylindric; lid conic; calyptre halved.

TRICHOTHE'CIUM. Gr. *trichos*, (hair) *theca*, (sheath.) 6. Fun.

roseum, with tufts at first distinct, and at length confluent in some cases: filaments white: seeds pink, oval, numerous. On rotten wood.

TU'BER. Lat. *tuber*, (puff ball, truffle.) 6. Fun.

cibarium, very rough, with blackish warts. Under ground. Eatable. 1½ i.

albidum, very rough, with whitish warts. Under ground. ¾ i.

TULOS'TOMA. Gr. *tulos*, (a wart) *stoma*, (mouth.) 6. Fun.

brumale, stipe smoothish: fruit-covering globose; orifice flat. In pastures, meadows, and on walls. 1 i.

TY'PHULA. Lat. *typha*, (cat-tail plant.) 6. Fun.

placorhiza, filiform, elongated, white, sub-villose at the base, with a dark fuscous lenticular tuberous knob. In woods. 2 i.

erythropus, gregarious: fruit-bed smooth, white, shorter than other species, terminating in an elongated, filiform, dark-red stipe. On sticks and leaves. ½ i.

U.

ULO'TA. Gr. *ulotomos*, (wood-like.) 2. Mus.

crispa, stem ramose: leaves lance-linear, recurved-coiled when dry: pedicels elongated. On trunks of trees.

ULVA. Gr. *uliai* (parings of hides.) 4. Alg.

bullosa, frond obovate, slippery, sinuous, blistered, finally expanded. 6 i.

spadicea, imbricate, sub-rigid, zoned, sub-tomentose, fuscous glabrous beneath, pale-fuscous.

ferruginea, effuse-reflexed, ferruginous: pileus thin, sub-tomentose, smoothish, pilose beneath. On fallen limbs of trees, &c.

hirsuta, cespitose, coriaceous, yellowish, strigose-hirsute; glabrous beneath. On trunks, rails, &c. 3 i.

lilacina, sub-imbricate, soft not zoned, tomentose pale: at the margin and on the under side pale-purple. On trunks of evergreens. 1½ i.

3. *Resupinate, effuse, papillose, substance various.*

(Pale or flesh-colored.)

pannosa, corky, pale: cap depressed, scaly beneath, smooth, sub-pilose. On the ground. 2 i.

quercina, resupinate, longitudinal: coriaceous, rugose somewhat fleshy; almost destitute of a margin, and brown underneath. On oak branches, &c. 6 i.

polygonia, fleshy papillae largish, many-sided. On dry branches of poplar.

laevis, white-fleshy, broadly effuse, very smooth: margin byssus-like. On branches of poplar, &c.

rosea, somewhat wrinkled, rose-red: margin tomentose. On poplars, one or two inches long.

(Corol yellow or tan-color.)

palmata, erect, brown-purple: branches compressed, palmate folded, paler at the summit. 2 i.

frustulata, very hard, smooth, rimose-parted, pale.

URCEOLA'RIA. Lat. *ulccola*, (a little pitcher.) 5. Lic.

gagii, crust continued, calcareous, smooth, brownish-white, irregularly cracked when dry: apothecia very minute, blackish, sunk in the crust. 1½ i.

calcarea, crust determined, finely cracked, somewhat powdery, very white, becoming cinereous: disk minute, concave, black, powdered with white border prominent discoid, thin. 1½ i.

panurga, (pitcher-shield lichen. P.) effuse, granular-warty, pure white.

URE'DO. Lat. *uredo*, (blasting.) Rust fungus. 6. Fun.

1. *Seminal dust rusty-yellow.*

rosae-centifoliae, (rose-rust,) crowded, yellow, flat opening; little heaps orbicular. On rose leaves.

linearis, (yellow grain-rust. J. ☉.) linear, very long: stained yellow, at length but obscurely colored. On the culms and leaves of barley, oats, rye, wheat, &c.

2. *Seminal dust white.*

candida, (white rust,) white, opening. On shepherds purse, &c.

3. *Seminal dust blackish-yellow. On the fructification.*

segetum, (smut J.) dust black, copious: on spikes and glumes of grain.

caricis, dust black, naked, surrounding the capsules. On carexes. Grass smut.

Us'nea. Lat. *ustionis, of uro*, (burning or combustible.) 5. Lic.

florida, thallas nearly erect, roughish, greenish-grey, with very numerous fine horizontal fibres. Branches patent, sub-simple: apothecia plane, very broad, whitish, ciliated: the cilae radiating long.

barbata, thallus pendulous, smoothish, rounded, thickish, pale greenish grey. Branches divergent, here and there fibrillose, capillary at their extremity, articulated below.

plicata, thallus pendulous, smooth, pale. Branches lax, much divided, sub-fibrillose; the ultimate ones capillaceous: apothecia plane, broad, ciliated, ciliae slender, very long.

strigosa, frond effuse, ramose, dirty-cinereous, scabrous: branches longish, flexuose, dichotomous, lax, every where bearing strigose fibres: receptacles fleshy, broad, sub-lobate, tooth-radiate. Perhaps a variety of the florida.

angulata, frond pendulous, flexuose, sub simple, angled, pale-cinereous; angles acute, scabrous: fibres horizontal, approximate, simple, short, slenderly terete. On trees.

trichodea, frond prostrate, smooth, pale white, filiform, tender, sub-ramose: fibres horizontal, somewhat 1-sided, scattered: receptacles uniform-colored, the periphery elevated, thin, naked, entire.

V.

Variola'ria. Lat. *variola*, (small-pox spots.) 5. Lic.

velata, crust determined, somewhat cartilaginous, smooth, very white, plaited in rays. Warts of apothecia polished, compressed, tumid: kernel covered with a thin, powdery skin. 1½ i.

globulifera, crust sub-cartilaginous, greyish, uneven, with granules and soredia scattered in an irregular manner. Warts of fructification sub-globose, smooth, at length depressed above, scattered, and contain a concave nucleus. 1½ i.

communis, crust cartilaginous, polished, whitish, becoming unequal and ash-colored, scattered with white soredia, leaving no margin. Warts of apothecia spheroidal, powdery. 1½ i.

amara, crust rugose, cracked, uneven, sub-pulverulent, white or greyish. Warts of apothecia appressed, plano-concave, margined, bearing soredia of the same color as the crust. 2 i.

dealbata, crust tartareous, thickish, greyish-white, cracked tumid, papillary and rugged, obscurely zoned at the circumference: apothecia orbicular, prominent, white, 3 i.

Vauche'ria. In honor of Vaucher, a botanist of Geneva. 4. Alg.

dichotoma, filaments setaceous, dichotomous, fastigiate: thecae globose sessile solitary. 12 i.

dilwynii, filaments flexuous: thecae sessile, lateral globose. 1 i.

geminata, filaments dichotomous: thecae obovate stalked, opposite, on a common cornute pedicel. 6 i.

Verpa. Lat. *verpa*, (same as *phallus circumsisus.*) 6. Fun.

conica, cap bell form, smooth, fuscous sub-sinuate: stipe and under side yellow. 3 i.

Verruca'ria. Lat. *veruca*, (a wart.) 5. Lic.

maura, crust very thin, smooth, much cracked, very black: apothecia very minute, sub-globose, immersed; the extremity prominent, umbilicated: nucleus blackish.

punctiformis, crust very thin, determined, polished brown: apothecia minute, hemispheric globules, without orifices; kernel white.

stigmatella, crust thin, cartilaginous membranous, polished, becoming cracked, whitish. Apothecia minute, hemispherical, clustered, sub-confluent, with scarcely any orifice.

ceuthocarpa, crust somewhat gelatinous, roundish, broken, dark, crenate cut, radiated in the ciscumference: apothecia sub-globose, immersed, papillose at the end.

schraderi, crust tartareous, contiguous, whitish: apothecia minute, clustered, immersed, sub-globose, dirty, transparent inside.

pulla, crust thin, contiguous, membranaceous, smooth, dark-fuscous: receptacles minute, hemispheric, glabrous, sub-papillate, black within. On the bark of leatherwood, &c.

W.

Weis'sia. In honor of Weiss, a German botanist. 2. Mus.

microdonta, small: leaves lanceolate, long acuminate, crisped and twisted when dry, having a fascicle of ducts or tubes: peduncle pale: capsule oblong-ovate; lid beaked; teeth of the peristome narrow.

curvirostra, leaves lanceolate twisted, imbricate, spreading: capsules slender, ovate-cylindric; lid beaked, recurved.

capillacea, leaves lance-subulate, serrulate, somewhat rigid, nerves thick: stem simple, slender: germs oblong-ovate, erect, smooth; lid subulate-beaked, obtusish at the apex.

Z.

Zona'ria. Lat. *zona*, (a belt.) 4. Alg.

pavonia, fronds reniform, flabelliform, smooth, membranous. Zones concentric. 3 i.

Zygne'ma. Gr. *zugos*, (a yoke,) *nema*, (a thread.) 4. Alg.

cruciatum, articulations twice as long as broad; stellae roundish. Fruit spherical. $\frac{1}{4}$ i.

nitidum, articulations about as long as broad. Spire cruciate, thin contracted. Fruit elliptical. 2 i.

PHYSIOLOGY

AND

NATURAL ARRANGEMENT.

PHYSIOLOGY, THE SCIENCE OF ORGANIZATION OF VEGETABLES AND ANIMALS.

1. ELEMENTARY CONSTITUENTS. ULTIMATE ATOMS OF VEGETABLES are essentially *carbon*, (the basis of charcoal) *hydrogen*, (the basis of water) and *oxygen*, (a constituent of atmospheric air and water.) *Nitrogen* (one of the constituents of atmospheric air, and saltpetre,) is also a constituent of *cruciform* plants. ULTIMATE ATOMS of animals are essentially *carbon*, *hydrogen oxygen*, and *nitrogen*. *Phosphorus*, and *sulphur* are often present: and rarely some other principles.

ULTIMATE ORGANIC ELEMENTS are *cellular tissue*, *vascular tissue*, and *fibre*. These elements seem to be the *primary* product of the living principle, whenever it exerts any influence upon matter. Its *secondary* act arranges these ultimate elements, so as to constitute species of organized beings.

2. *Specific differences exist, primarily, in the living principle only.* About ninety thousand ascertained species of vegetables, consist essentially of carbon, hydrogen, oxygen; rarely with the addition of nitrogen. When a species decays, (for example the oak tree,) and the seed of a totally different species falls among its ruins, (for example the lily,) some of the same individual atoms which constituted the oak, will now constitute the lily. A successive series of individuals of the same species of living principle which gave form to the hyacinth, cultivated by Eve, in Eden, may have been employed in changing into its own form the decaying constituents of the helebore, the poison hemlock, the palm tree, the cedar of Lebanon, and the pulse of Daniel, until the present year. We are therefore constrained to believe, that we have about eighty or ninety thousand species of living principles passing from plant to plant, in a multiplied ratio, through the organic vehicle, the seed or sporule.

3. The *living principle*—the essence of specific differences—is endowed with *irritability* and *appetency*. But it is never endowed with provident care, nor a disposition to contend for rights. Plants, Radiated animals, (as the inhabitants of corols, sponges, &c.) and Molluscous animals, (as oysters, snails, &c.) are thus furnished with irritability and appetency. Their remains are found in the oldest rocks above the primative; while none of the higher orders of organized beings are found below upper secondary rocks.*

4. *Instinct*, supervenes upon the living principle in Articulated animals, (as bees, lobsters, spiders, &c.,) and Vertebrated animals, (as lizards, snakes, fish, birds, and land quadrupeds.) Many of their remains are found in the most recent rocks, and stratified banks of clay and sand. Such animals are endowed with *provident care*, and a *disposition to contend for rights*. But no such species can desire, or conceive of a future state of being after death.

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[*] I do not intend to give any opinion on the controversy respecting trilobites between Brongniart and Latreille. The former ranks the trilobites among articulated animals, and the latter among multivalve mollusci. But Cuvier gives Molluscous animals a higher place in the animal creation, than the Articulated.

5. *Intellect* supervenes upon instinct and the living principle, in the single species, Man. His remains have never been found in any stratified deposit; therefore he was created after such depositions were finished. As he is the only species of organized being on this earth, which is endowed with intellect to desire or conceive of a future life; so it appears from the sacred Scriptures that HIS INTELLECT ALONE, will survive death.

VEGETABLE PHYSIOLOGY.

If soap suds be put into a clearly transparent glass vessel, (a plain decanter is very suitable,) and the breath be forced into it through a pipe or quill, bubbles will be formed, which resemble the elementary cellular structure of plants. If the vessel be corked closely about the pipe, and the liquid be clear and in a small quantity, the bubbles may be compressed by sufficient force of the breath, into polyhedral figures of various sizes. Though the adjoining flattened sides are double, they appear to be single. Such is also the figure, appearance, and structure of the cellular tissue of plants. The chief volume of the thick, fleshy parts of plants, is thus constituted; particularly the parenchymous parts of leaves, &c.

If bubbles are elementarily, elongated spheroides, they will become hollow parallelopipeds by compression. Thus bubbles may be compressed and so collated as to resemble the arrangement of bricks in a wall. If extensively elongated and greatly compressed, they will form compact elongated parallelopipeds. These may be so arranged as to give the firm texture of the oak tree, or even of the *lignum vitae.*

These bubbles or cellules may be separated in some vegetables, and will become spheres, or spheroides, by the recovery of their elasticity. This result may be well illustrated by heaping inflated soap bubbles (blown from the bowl of a tobacco pipe) upon baize with a very long nap. Their compressed adjoining sides (which appear to be single walls) will recover their spherical forms, on blowing the bubbles asunder.

CELLULAR TISSUE is a connected or interwoven series of cellules, adhering by compressed faces. No visible perforations have been observed in the cellules, though we have pretty good evidence of the transmission of liquids through them in all directions. This is the only tissue which is an *universal constituent* in all plants. It constitutes the whole of Cryptogamous plants, at least of the lower orders, the parenchymous parts of leaves, pulpy fruits, &c.

SPIRAL VESSELS consist of a tissue produced by the adhesion of cellules in more or less of a fibrous form, and coiled or twisted spirally so as to form cylinders. They are found in medullary sheaths; (that is, the thin, hollow cylinder surrounding the pith;) also around the centre in all branches, and in veins of leaves. But they are never found in parts which are produced by the descent of deposited matter: consequently are not found in bark, or outer layers of wood or roots.

Spiral vessels are never found in the lower orders of Cryptogamia. Therefore *cryptogamous* plants are called *Cellulares*, and *phenogamous* plants are called *Vasculares*. Spiral vessels may be seen by breaking the stem of stellaria media, and pulling the parts asunder; also strawberry petioles, young sprouts of luxurious shrubs, &c.

FIBRE, or WOODY FIBRE, consists of a tissue of elongated tubes, or of dense fibre, perhaps always tapering to each end. Always imperforate to the eye. It is found among parenchyma; and gives strength to vegetable fabric.

Ducts or air vessels, are transparent tubes, marked with dots, bars, or transverse streaks. Sometimes they appear like spiral vessels: but they have rings instead of spires.

Intercellular passages, are small spaces between cellules. *Stomata* are little oval mouths between the sides of cells, opening into intercellular passages.

SEED.

The *specific* characteristics of the living principle seem first to exert their energies in the seed. And as it is the organ upon whose structure are founded the most important distinctions in Natural Clasification, it demands the student's first attention, when entering upon the study of Vegetable Physiology or Natural Orders.

The seed consists of *integument*, *albumen* and *embryo*. Sometimes the albumen is wanting; as in the bean. In such cases the thick cotyledons are parts of the embryo, and expand into what are called cotyledonous leaves. Integument is always present: excepting that the seeds of Coniferae (as pines, junipers or cedars, cypresses, &c.)

and of Cycadeae. (as the sago plants, are totally destitute of any covering, but the cuticle. These are the Achitospermae.*

The EMBRYO is divided into *radicle*, the part becoming the root, *cotyledons*, the parts ecoming peculiar succulent leaves, *plumule* the ascending part (often shooting up rom between the cotyledons) which become developed into stem, leaves fructification, &c. Albumen often embraces the embryo, or holds it in a depression on one side; as the Indian corn. In most graminious plants, albumen forms a large proportion of the seed.

The student cannot be made to understand seeds without producing germination. and then watching its progress through all the early stages of growth. See figures and descriptions, back of p. 33.

ROOT.

The radical of the seed extends downwards and becomes a root. It divides into branches and firbes: at the extremities of which are bundles of ducts, adapted to the absorption of nutriment. These ducts seem to be endowed with the power of decomposition; as carbon is certainly obtained from carbonic acid gas. Students should watch the progress of germination and growth of seeds planted in pure pounded quartz, or glass, so placed in a suitable vessel, that nothing but pure water and atmospheric air can have access to them. They will then see that the chief volume of the plant is carbon, which must have been obtained from a decomposition of the carbonic acid gas, which floats in the atmosphere. Spiral vessels, pith, stomata, and buds, not in roots. The bulbs of lilies, onions, &c., are not roots; but their fibrils are the roots.

STEM.

Leaf-buds elongate upwards into stems, after the plant is so far advanced as to produce buds. In truth, buds of a tree may be considered as distinct individuals inhabiting, and drawing support from the same general substratum or reservoir of food.

The depositions of matter, causing the increase of volume in vegetables, are made on two general principles; depending on the distinctions peculiar to Monocotyledonous and Dicotyledonous plants. In Monocotyledonous stems, (for example the stalk of Indian corn) the matter of increase is added at the centre. Hence such plants are called Endogynous. In Dicotyledonous stems, (for example the bole of the poplar tree,) the matter of increase is added to the outside of the wood or other solid part, inside of the bark. Hence such plants are called Exogenous. In the latter case the addition or deposited matter appears just under the bark in the form of mucilage, called camb. (*cambium*) which at the decline of the year becomes indurated and divides into two concentric hollow cylinders; inner one thick, forming a new outer circle of wood; the outer one thin, forming a new inner circle of the bark.

EXOGENOUS plants, as elder, oak, &c., have their stems made up of Pith, Medullary sheath, Medullary rays, Wood, Cambium, Bark, Cellular integument, and Cuticle.

Pith: the well known central spongy column.

Medullary sheath, is the immediate cylindrical sheath surrounding the pith; it consists of spiral vessels and ducts for carrying up the sap or other fluids. From this sheath, rays issue, which are called;

Medullary rays, or silver grain. They are vertical sheets, plates, or radiating lamellar organs, whose inner edges are connected with the Medullary sheath and whose outer edges extend annually through the last woody deposit (indurated cambium.) The stump of an oak tree, after the tree has been cut off about a year, exhibits the silver grain in a beautifully radiated manner. They, being less subject to the action of air and rain than the common wood, exhibit themselves distinctly marked by their silvery lustre.

WOOD consists of concentric hollow cylinders, outside of the medullary sheath, and inside of the bark. The annual deposits of cambium, become woody fibres, which constitute the continuous descending axis of buds; therefore the number of concentric layers indicates the age of a tree, &c. The outer and most irritible layers are called *sap-wood*, or alburnum; the inner and more matured layers are called *heart-wood*.

CAMB, cambium, is deposited by the return of sap downwards. This may be demonstrated by inspection. Therefore we say, the sap goes up near the pith, and goes down between the cuticle and heart-wood. It is supposed that the sap must be exposed to the atmosphere in leaves or other delicate herbage (as the stems of dodder) before it is in a situation for vegatable deposits. In this respect it is analagous to animal blood becoming modified in the lungs, by alternate inhalations of air.

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* *a*, without, *chiton*, tunic, *sperma*, seed.

Bark consists of a strong inner layer, or *bark proper:* an outer thin almost lifeless membrane, called *cuticle;* and a loose green (generally) envelope between the cuticle and bark, called *cellular* integument.

Woody layers being annually deposited under the bark, the early wood becomes widely separated from the bark after several years.

It is on this account that those trees which long retain their expanding cuticles, present to our land surveyors those paradoxical magic-like marks. A beech tree, for example, if lettered or figured with a board-marker, will present these marks twenty or thirty years afterwards, both on the cuticle, and on the wood, of the year when marked; while the intervening layers are sound and without a scar. These interposed woody layers, originating in mucilage annually deposited between the bark and wood, gradually separate the marked bark and cuticle from the marked wood, while they grow between these marks and become continuous.

BUDS.

The same buds may become leaves, stems, and branches: or calyxes, corols, stamens and pistils. Experienced gardeners can readily distinguish leaf-buds from flower buds; and these buds will not interchange under ordinary circumstances. But from most careful and profound investigations, made by learned and patient Naturalists, it seems to be demonstrated, that the elements of flowers and fruit, may be traced to a leaf-bud. A bud (truly a leaf-bud, and so pronounced by the eye of experience,) may become developed into a branch bearing leaves in whorls, alternations, or scattered. Or the lower whorls of leaves may have become sepals (distinct or united;) the next petals; the next stamens; and the end of the branch may have become the germ, style and stigma of the pistil. In most calyxes, corols, and stamens, we can discover alternations in their divisions. The great difference in the course of developement seems to be, in the elongation of the axis. When the axis is a branch, it may be elongated to the measure of several feet. When the axis is merely the receptacle of a flower, and the pistil, its elongation may be limited to the fourth, or even sixteenth of an inch.

Some buds are formed under ground, as of tulips; but regular ones are produced in the axils of leaves.

Stinted buds often become thorns. Some plants are remarkably subject to the process of stinting buds, as most species of Crataegus, some species of Prunus, and a few of the Pyrus.

LEAVES.

Regular leaves never grow out, side by side. The alternate position along opposite sides, seems to be the real *normal* principle of arrangement, towards which all other positions tend. Though we find them opposite and in whorls, our best physiologists ascribe this to the unequal developement (to which some plants are habitually subject) of the internodes of the axis.

The leaves of *exogenous* (dicotyledonous) plants derive their spiral vessels from the medullary sheath, which the structure of the ribs and veins greatly resemble. The cellular integument and cuticle of the leaf is derived from that of the stem; and becomes more or less expanded and attenuated. The veins of exogenous leaves branch off in various directions among the substance of the disk (made up of cellular-integument and cuticle) called parenchyma.

The leaves of endogynous plants (monocotyledonous) derive their spiral vessels from bundles, diverging off as a subdivision of the general quantity of bundles constituting the whole culm, which the structure of the veins greatly resembles. Their veins mostly extend from the base of the petiole to the apex, or to a kind of cord or edging which carries them on, in an united state, to the apex.

The petioles of some leaves become spiral climbers, as of the Clematis. In many cases the leaf does not expand into a disk: but becomes two or more (rarely one) branches of a climber, called a tendril, as grapes and peas. Sometimes the petiole spreads into an enormous cup, as that of the Sarracenia, (side-saddle.) This cup is called an *ascidium*, (bottle-leaf.) (Greek, *askos*, the leathern bottle of the ancients, *idios*, peculiar or particular kind.)

APPENDAGES TO DEFINITE ORGANS.

Stipules are rudimentary leaves and sometimes are transformed into real leaves, with buds in their axils. They are generally appendages attached to the bases of leaves; as of rose-leaves.

Bracts (often called floral leaves) are generally near the origin of a flower and at first surrounding or adjoining it. Bracts are at a small distance below the calyx, when present. The chaffs or husks of grass and corn, are strictly bracts; but in descriptions they are treated as equivalent to calyxes and corols.

Thorn, an abortive indurated bud fixed on the wood.

Prickle, arises from the bark by expansions in minute spots.

Hairs, arise in the same manner: sometimes they yield an acrid liquid by compression: as of the nettle.

Gland, a roundish (generally minute) appendage on various organs of some plants.

Tendril, a filiform appendage by which some climbing plants support their position.

INFLORESCENCE.

The form of any one kind of inflorescence depends on the developement of the flower-bud from which it is produced. The form of developement commences in the very axil from whence the flower-buds originate. Numerous latent budlets are subjected to the developing energies of the plant at the same time. If the general axis is duly elongated with lateral pedicels, *a raceme* is produced; as of the currant. If no pedicels are developed it becomes a *spike*. If lateral peduncles are considerably elongated and sub-divided, it becomes a *panicle*. If branches are slightly developed in a radiated form, a *head* is produced. But if these radiated branches are more extensively developed, an *umbel* appears. If the branches of the umbel are unequally subdivided, a *cyme* is made; or a *corymb*, if the branches are at different distances along the axis.

CALYXES AND COROLS.

These organs, called floral envelopes, are modifications of whorls of leaves, as mentioned under *buds*. There is generally a calyx and corol to a flower; and by careful examination we find them to be made up of segments (united or separated) so arranged that those of the calyx and corol alternate with each other.

In descriptions the *calyx* is said to be monophyllus (one-leaved) or polyphyllous (many-leaved)—more recent authors say *monosepalous* and *polysepalous*.

The *corol* in descriptions is said to be monopetalous (one-petalled) polypetalous (many petalled.) Particular names are used also. All of which are defined in the annexed dictionary.

STAMENS.

We will proceed on the hypothesis (perhaps it may be called an established physiological principle) that the receptacle, terminated by the pistil, is but a different developement of a branch as an axis issuing from a leaf-bud; and the calyx and corol are but different developements of leaves along said axis. We shall thus be led to consider the stamens as an analagous, but different, developement of a whorl of leaves next above those forming the petals. The language of Lindley is most appropriate. "There are many instances, (as the pond-lily, Nymphaea,) in which no limits can be traced between the petals and stamens. In such cases it is found that the limb of the petal contracts and becomes an anther, while the claw (unguis) assumes the state of a filament. Now as there are no fixed limits between the petals and sepals, (calyx leaves,) nor between sepals and bracts, nor between bracts and leaves, it follows that the stamens are also modifications of leaves. And as the limb of a petal is analagous to the lamina (or broad disk) of a leaf, and the claw is analagous to the petiole, it also follows that the anther is a modification of the lamina of a leaf, and the filament is a modification of the petiole.

"Stamens follow the same laws of successive development as leaves, and consequently, if their arrangement be normal, (in exact accordance with the governing elementary law of arrangement in that particular species,) they will be either equal in number to the petals, and alternate with them; or, if not the same, some regular multiple or divisor of the petals. If they are twice the number of petals, two whorls are supposed to be developed into stamens," with a very small elongation of the axis. If they are but half the number, two whorls are supposed to be developed into petals.

"All deviations from these laws are ascribed to the abortion of some part of the organs. When the stamens do not contract any union with the sides of the calyx, they are *hypogynous;* when they do contract such adhesion, they are *perigynous.* If they are united both with the surface of the calyx and the germ, they are *epigynous.*"

Parts of Stamens.

Stamen is divided into *filament,* (often wanting,) which supports the *anther.* The *anther* is a kind of capsular knob, mostly at the end of the filament; always present in a species. It contains a mealy or glutinous substance, called *pollen.*

PISTIL.

The pistil is a metamorphosis or modification of a single leaf, or one or more whorls of leaves. The *germ* or ovarim is the base of the enfoled lamina of a leaf or leaves; the *style* is an elongated midrib of a leaf; the *stigma* is the naked, secreting, humid apex of the midrib. The *germ* (ovarium) includes the *carpella* with inclosed *ovula,* when all are present. An ovula is a rudiment of the smallest subdivision of the fruit, embracing an unperfected seed, or more than one. Carpella are formed of folded edges of leaves, whose margins develope by the metamorphosis of cellular tissue into granulations, becoming a substance called *placenta,* more or less fleshy; from which the carpella, including the ovula, (seeding germs,) always grow, fastened by a *funicule.*

Note. A few principles relating to fruit are made here, as required by order of succession; but this subject must be studied, with figures, in the first part of this book.

Fruit is the ripened germ *(ovarium.)* It consists of a *pericarp, perisperm* or *tegument,* and *seed,* in most cases, as the apple. Many are destitute of what is generally called pericarp, as Indian corn and mint. Some few are destitute of the perisperm also; having no covering but the *cuticle,* as the pines, junipers, and yews.

Illustrations of the germ, (ovarium) *in its progress to the state of ripened fruit.*

1. Take two ripened apples, which have not approached decay, or a tender, mealy state. Consider them as enlarged germs. Split one of them vertically. Observe, that from the stem up to the place of the seeds, there is a kind of solid axis, which is an elongation of the receptacle, now enveloped by the thickened parenchyma of the germ.

2. Observe, that from the permanent calyx at the top of the split apple, to the place of the seeds, there is also a kind of solid axis. This is the *base of the style,* also enveloped by the thickened parenchyma.

3. Now cut the other apple transversely (crosswise) about one third of the distance from the top towards the base. Here will be seen 5 cells containing seeds, each cell lined with valves. The cells will exhibit seeds of a wedge-ovate compressed form, with thick ends pointing obliquely upwards: and tapering ends below attached by a long raphe to placenta, (one to each cell.) These cells are five carpellae: the 2-valve-like sides of each, being the conduplicate sides of a leaf; with dehiscent neutral edges where the seeds are attached to thin placenta.

4. Now cut a seed transversely. It will be seen that the real seed is white, and now covered with its brown leathery covering. This is truly the *perisperm.* While the petals still remained, and while the apple was called a germ, the rudiment of both this brown perisperm and white seed was called *ovula,* and this white seed, considered separately, was the milky nucleus with its tunic.

After thoroughly examining several apples in this manner, all kinds of fruit may be investigated with facility. For example: the common pea has its pericarp (pod) which was a germ with all its rudimentary contents. The seed with its *present* testa, were its *ovula.* Considerable aid may be received from accurately figured examples, while we are examining specimens. But figures alone will never convey very accurate instruction, without frequent comparisons.

This brings us to the seed, with which we commenced; and thus completes the circle. Though the descriptions are short, and embrace nothing in detail; sufficient is given for starting the student in the right course. Those who wish to pursue the subject of vegetable physiology extensively, are referred to the writings of Lindley—particularly his introduction to the Natural Method, and his introduction to Botany. His Ladies' Botany would be well enough for an ordinary writer; but it is quite beneath *himself*.

REPRODUCTION OF CRYPTOGAMOUS PLANTS.

The student should give some attention to the reproduction of plants, wherein the stamens and pistils have no agency: or where their agency has not hitherto been detected. These are the natural Families denominated *Filices* (ferns, as brakes, polypods, maidenhair.) They grow chiefly on the earth, in places highly elevated or cool and damp. MUSCI (mosses, and hepatic mosses called liverworts.) These grow chiefly on trees in ancient forests, or in damp shady places on the earth. LICHENES (lichens.) They are wholly confined to dry situations in free air; but in such situations they are found from the equator to the polar regions. They are in the form of crusty, leathery, woody patches, (sometimes fibrous and branching) on stones and trees, old fences, &c., in almost all places. ALGAE, (seaweeds, frogspittle, greenhair.) They are found in wet situations, also in clear water. FUNGI, (mushrooms, puff-balls, mould, mildew, smut.) These abound in all parts of the habitable world. They are found on the earth, rotten wood, decaying vegetables of every kind; on bread and other domestic food; on leather, cloth, and almost every thing capable of becoming moderately moistened, after it has been thus exposed for a short period.

The following extract from Lindley's article on their REPRODUCTION and INCREASE, will be sufficient for our present purpose. The description of the *Natural Orders*, which succeeds this article, will give a more enlarged view of systematic the position of these very much neglected of nature.

[Extracts from Lindley's outline of the First Principles of Botany.]

FERNS are increased by little bodies called *sporules*, inclosed within cases, named *thecae*, which often grow in clusters or sori, from the veins of the under sides of the leaves, or from beneath the cuticle. The latter, when it incloses the *thecae*, is termed *indusium*. The *indusium* separates from the leaf in various ways, in consequence of the growth of the *thecae* beneath it. The *thecae* have frequently a stalk which passes up one side, and finally, curving with their curvature, disappears on the opposite side. The part, where the stalk of the *thecae* is united with its side, is called the *annulus*. These *thecae* may be considered minute leaves, having the same gyrate mode of developement as the ordinary leaves of the tribe. Their stalk, the petiole, the annulus, the midrib, and the *thecae* itself, the *lamina*, have their edges united. They would therefore, be analogous to *carpella*, if it appeared that they were influenced by the action of any vivifying matter, equivalent to the pollen.

MOSSES, are increased by *sporules*, contained within an *urn* or *thecae*, placed at the apex of a stalk or *seta*, bearing on its summit a kind of loose hood, called a *calyptre*, and closed by a lid or *operculum*. The inside of the *theca* has a central axis or *columella*, and the orifice beneath the *operculum* is closed by teeth-like process, or a membrane, called the *peristomium*. The number of the teeth of the *peristomium*, is always some multiple of four. The *calyptra* originally grew from the bases of the stalk; but when the stalk elongated, the *calyptra* was torn away from its base, and carried up, surrounding the *thecae*. The *calyptra* may be understood to be a convolute leaf; the *operculum* another; *peristomium*, the one or more whorls of minute, flat leaves; and the *thecae* itself to be the excavated distended apex of the stalk, the cellular substance of which separates in the form of *sporules*. There are also in mosses' organs, called anthers by some, which do not apear analagous to the stamina of flowering plants; and the nature of which has not been demonstrated.

LICHENS are propigated by *sporules*, included within little membranous cases, which lie within a denuded portion of their own central substance, called the *scutellum*, *apothecium*, or *shield*.

ALGAE increase by sporules, which are usually formed by a separation of cellular tissue, within the substance of the plants themselves.

FUNGI have a similar mode of propagation. In some of the most highly developed of the tribe, the part in which the *sporules* lie, is distinct in appearance from the rest, and called the *hymenium*.

NATURAL METHOD OF ARRANGEMENT.

Preceding the 33d page, where the descriptions of *Genera* and *Species* of plants commence, the genera will be found arranged under the Natural Orders, which are classified in the following system. But these orders are there inserted, as sub-divisions of the Old Centigrade of Jussieu. They are referred to by Jussieu's numbers, and Lindley's names. From that arrangement they will be referred to the following arrangement: which is according to Lindley's improvements of 1835—received since the seventh edition of the Manual of Botany was published. Jussieu's *numbers* are prefixed to Lindley's *orders*, throughout the following arrangement. I adopt Lindley's plan almost servilely: partly because it is approved by a most competent botanist, who has faithfully studied American plants by it.

By this method, plants are distributed into—1. Classes, (or Grand Divisions;) 2. Sub-classes; 3. Groups; 4. Alliances; 5. Orders; 6. Genera; 7. Species. In this condensed view, the arrangement is continued no lower than the Orders.*

At the very outset of his system, Lindley says: “There is no such thing as an arrangement which shall express the natural relations of plants in a *consecutive series.*” But it appears to me, that he has done much towards effecting that very desirable object.

CLASSES ARE THREE.

CLASS I. DICOTYLEDONOUS or EXOGENOUS. Seeds with two lobes (cotyledons) to each, as the pea, apple-seed, peach-meat, walnut. The stalks, trunks, vines, branches, &c., encrease their growth outside; but inside of the bark. This is effected by the induration of the mucilage or cambium, which is secreted and deposited between the wood and bark. Their tissue (or ultimate organic spherules) is vascular and spiral. The leaves are net-veined. The floral organs manifest a tendency to the number five, or some multiple of five; as the five petals of cherry flowers, the five cells of apples, the ten divisions of the calyx of a strawberry flower, the twenty stamens of a peach flower.

This class embraces much the largest proportion of flowering species: and their organization is the most complicated. It may be well to carry our views, in this particular, to those *vertebrated animals* which are the most complicated, as quadrupeds and man; whose hands and feet terminate in five phalanges. We may observe the same tendency in *polypi*, which inhabit coral rocks, star-fish, &c.

Plants of this class are reproduced from dicotyledonous seeds. Their seeds have a kind of tegument, or double tunic, outside of their cuticles; with but few exceptions. The exceptions are pines, yew trees, cedars, and sago plants, *(Cycas.)* These may be called *Achitospermous.*

Remark. It is very absurd to call them *Gymnospermae*, according to some; for this term has been applied for a century to the absence of a pericarp; whether the seed had Wildenow's tunic or not. *Achitospermae* is more appropriate, and does not involve the absurdity of changing the meaning of a long established and necessary term. The letter *a*, (in composition) without, *achiton*, tunic or shirt, *sperma*, seed. Gr.

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* See the enumeration of the genera, under each order, which precedes p. 33.

CLASS II. MONOCOTYLEDONOUS, or ENDOGENOUS. Seeds with one lobe to each; as wheat, Indian corn, oats, barley, meadow grass, lily seed, asparagus seed, plantain seed, orchis seed, &c. The stalk or culm increases its growth by additions at its centre, which stretch its bark, or outside envelope. The tissue is vascular and spiral. Leaves parallel veined, or rather lateral veined, not netted; as the plantain leaf, corn leaf, onion leaf, wild turnip leaf, tulip leaf, cat-tail leaf, &c. The floral organs exhibit a tendency to the number three, or some multiple of three: as the three stamens of all proper grasses, the six stamens of the onion, the three stamens and three stigmas of the iris, the six petals and stamens of lilies, tulips, and hyacinths.

Seeds are necessary to the reproduction of the species. But there are a few strange plants of torrid or southern districts, which are semi-cryptogamous. They are propagated by a grumous fungioidal seed or sporule. They are arranged under the name Rhizantheae (Gr. *riza*, root, *anthos*, flower.)

CLASS III. ACOTYLEDONOUS, or ACROGENOUS. They have no cotyledons; but are reproduced from sporules. They increase their growth, mostly, from their tops or ends. Their tissue is cellular. Leaves with forked veins, or none. Floral organs none, or scarcely analagous to those of flowering plants. Such as mushrooms, sea-weeds, mould, lichens, mosses, and puff-balls.

CLASS FIRST.

DICOTYLEDONOUS, OR EXOGENOUS,

IS DIVIDED INTO THREE SUB-CLASSES.*

S. C. 1st. Polypetalae. Having distinct petals, as the rose, pink, strawberry, locust tree, violet. Some have the edges of their petals cohering: but, in such cases, they are scarcely joined at their bases.

S. C. 2d. Incompletae. Without petals, or whose floral envelopes are herbaceous, and imperfectly developed. The calyx is generally but little developed, or is wanting. As nettles, walnut trees, oak, elm, willow, sassafras, pig-weed, wild ginger, buckwheat.

S. C. 3d. Monopetalae. Having but one petal, or rather having their incipient petals united into a tube or ring at the base: as mullein, currant, morning glory, florets of sunflowers, catnip, potatoe. The style of a monopetalous flower is scarcely ever divided.

I. POLYPETALOUS SUB-CLASS.

First. Albuminous Group of Alliances. Embryo of the seed shorter and smaller than the albumen.

1st Alliance. *Ranales.* Herbaceous: carpels single, or if several they are separable. If united, they have partitions (parietal) arising from the placenta, or the substance on which they are based.

61. *Ranunculaceae.* Floral envelopes in threes or fives. Sap transparent. Anthers bursting with longitudinal slits: carpella simple distinct: leaves sheathing: seeds without arils, embryo minute, albumen solid, hard. (crow-foot, virgin bower, columbine, peony.)

62. *Podophylleæ* Polypetalous: anthers bursting by longitudinal slits; carpella simple solitary: leaves without stipules: seed without arils, indefinite, attached to a lateral placenta: embryo small, at the base of fleshy albumen. (mandrake.)

62. *Papaveraceæ.* Floral envelopes in threes or fours. Sap usually milky. Carpella concrete; germ 1-celled: placenta narrow parietal; calyx in 2 parts; corol regular. Seeds numerous; albumen fleshy or oily; embryo minute, straight at the base of the albumen, plano-convex cotyledons. (poppy, blood-root.)

93. *Fumariaceæ.* Stamens diadelphous, definite: carpella concrete: germ one-celled, narrow parietal placentæ: corol irregular. (fumitory.)

62. *Nymphaacea.* Embryo enclosed in a vitellus. Floaters. Carpella concrete: germ many-celled. Seeds very numerous, attached to spongy dissepiments, and

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* The second and third classes are not divided into sub-classes.

enveloped in a gelatinous arillus. Albumen farinaceous; embryo small, on the outside of the base of the albumen, enclosed in a membranaceous bag: cotyledons foliaceous. (pond lily.)

62. *Nelumboneæ.* Ovaries concealed in a fleshy receptacle. Floaters. Polypetalous. carpella simple, distinct, immersed in a fleshy seed-bed: seeds solitary or rarely 2: albumen none; embryo large with two fleshy cotyledons and a highly developed plumula, enclosed in its proper membrane; leaves floating. (sacred bean.)

2d Alliance. *Anonales.* Apocarpous, woody plants.

75. *Magnoliaceæ.* Leaves with stipules, without dots. Polypetalous: stamens with anthers bursting by longitudinal slits: carpellae numerous, distinct, simple: leaves stipuled, not dotted. (white wood, swamp laurel.)

75. *Winteræ.* Leaves with stipules and transparent dots. Polypetalous: stamens with anthers bursting by longitudinal slits: carpella distinct, simple: leaves stipuled with transparent dots.

76. *Anonaceæ.* Flowers perfect, three-parted: stamens usually distinct. Polypetalous: anthers bursting by longitudinal slits: carpellae numerous, simple, distinct. (custard apple.)

3d Alliance. *Umbellales.* Flowers epigynous, in umbels: stamens usually hollow.

60. *Umbelliferæ.* Carpellae two, concrete: germ didymous, inferior: ovula pendulous: leaves sheathing at the base: fruit consists of two carpella (little fruit) separable at their joining sides (called commissure:) each is traversed by elevated ridges, (often appear rather to be wings;) the ridges are separated by channels; below these are fillets consisting of colored oily matter, a linear form, in the very substance of the fruit. Seeds pendulous, usually adhering firmly to their covering tegument; embryo minute, at the base of abundant horny albumen; radicle pointing to the hilum. (fennel, carrot, parsnip, angelica, poison hemlock.)

59. *Araliaceæ.* Polypetalous: carpellae more than two, concrete: germ inferior, with several cells: ovula solitary, pendulous; leaves sheathing at the base: flowers umbellate; embryo in the base of a fleshy albumen. (spikenard, ginseng.)

4th Alliance. *Grossales.* Flowers epigynous, in racemes. Stems solid.

85. *Grossulariæ.* Placentae parietal. Polypetalous: stamens 5: carpellæ concrete: germ inferior, 1-celled, parietal placentæ: fruit berry: petals distinct. (gooseberry, currant.)

5th Alliance. *Berberales.* Apocarpous: valves of the anthers curved backwards.

78. *Berberideæ.* Polypetalous: stamens opposite to petals with anthers opening with recurved valves: carpella simple, single: dye yellow. (barberry, poppoose-root.)

6th Alliance. *Pittosporales.* Syncocarpous, with hypogenous stamens, and the placenta in the centre of the fruit.

72. *Vites.* Fruit 2-celled, seeds few. Polypetalous: stamens definite: carpella concrete: germ 1-celled, entire: flowers regular: ovules definite erect; stem with tendrils opposite the leaves: sugary. (grape, creeper.)

62. *Sarraceniæ.* Stigma leafy, peltate. Polypetalous: stamens indefinite, distinct; carpella concrete: germ of several cells with placenta in the axis; calyx regular with imbricate æstivation, and a peltate petaloid permanent stigma. (side-saddle lily.)

Second. EPIGYNOSE GROUP OF ALLIANCES. Ovary inferior, usually having an epigynous disk.

1st Alliance. *Onagrales.* Æstivation not valvate: placenta central; every part of the flower some multiple of two.

88. *Onagrariæ.* Polypetalous: stamens definite: carpella concrete; germ inferior, many-celled: ovula indefinite: calyx of 4 divisions, anthers roundish, erect. (willow-herb, gaura.)

88. *Circææ.* Polypetalous: stamens definite: concrete carpella: germ inferior, 2-celled: ovules definite erect. (enchanter's night-shade.)

88. *Halorageæ.* Polypetalous: stamens definite: carpella concrete: germ inferior with definite pendulous ovula: embryo in the midst of fleshy albumen. (mermaid-weed, water-milfoil, hippuris.)

2d Alliance. *Myrtales.* Estivation not valvate. Placenta central. Number o parts of the flower uncertain.

91. *Rhizophoreæ.* Stipules between the leaves. Stamens double the number of petals, carpella concrete: germ inferior, 2-celled: ovules pendulous. (mangrove tree.)
90. *Melastomaceæ.* Stamens bent downwards: leaves three, or more, ribbed. Polypetalous: stamens definite: carpella concrete: germ inferior, many-celled: anther long, inflexed: seeds indefinite: leaves ribbed, opposite. (deer-grass, rhexia.)
89. *Myrtaceæ.* Leaves dotted, with an intra-marginal vein. Polypetalous: stamens indefinite; carpella concrete: germ inferior, concrete, many-celled: leaves opposite, pellucid dots. (myrtle.)
89. *Philadelpheæ.* Leaves not dotted, stamens straight. Polypetalous: stamens indefinite; carpella concrete: germ inferior, many-celled: anthers round: ovula indefinite. (mock-orange.)

3d Alliance. *Cornales.* Estivations of flowers valvate.

78. *Hamamelideæ.* Leaves with stipules. Polypetalous: stamens twice the number of the petals: carpella concrete: germ inferior, 2-celled, with solitary pendulous ovules: leaves alternate: calyx valve-like: petals linear-involute. (witch-hazel.)
58. *Loranthceæ.* Parasitical plants, bearing the stamens on the petals. Germ inferior 1-celled: ovulum single, pendulous; stigma naked: stamens opposite to lobes of corol: seeds solitary, pendulous; testa membranaceous; embryo cylindrical, longer than the fleshy albumen; radical naked, clavate, superior. (misletoe.)

4th Alliance. *Cucurbitales.* Placentae parictel.

97. *Cucurbitaceæ.* Flowers diclinous. Menopetaleus: germ inferior, parietal placentæ: fruit succulent: seeds flat ovate, enveloped in a close arillus, which may be juicy or dry: testa coriaceous, with a thickened margin (see pumpkin seed), embryo flat; albumen none: cotyledons foliaceous, veined; radicle next the hilum. (cucumber, gourd, muskmelon, watermelon, pumpkin, squash.)
Loaseae. Flowers with a ring of abortive stamens.
85. *Cacteæ.* Petals extremely numerous. Polyptalous, succulent: fertile stamens indefinite: carpella concrete: germ inferior, 1-celled, parietal placentæ, fruit-berried: calyx and corol imbricate. (prickly pear.)

5th Alliance. *Ficoidales.* Petals extremely narrow and numerous.

87. *Ficoideæ.* Succulent: polypetalous: stamens definite: carpella concrete: germ inferior, many-celled: seeds indefinite, with embryo lying on the outside of albumen. (fig, ice-plant.)

Third. PARIETOSE GROUP OF ALLIANCES. Placenta parietal.

1st Alliance. *Cruciales.* Embryo curved. Albumen absent.

63. *Cruciferæ.* Polypetalous: stamens tetradynamous: leaves alternate: root mostly pungent: root and herbage *antiscorbutic and nutritious.* Seed attached in a single row by a funicule, to each of the placentæ (seed-bases,) arranged along within the silique or silicle: albumen none: embryo with the radicle folded upon the cotyledons. Herbage antiscorbutic, seed stomachic, pungent. (radish, cabbage, mustard, shepherd-purse, water-cress.)
64. *Capparideæ.* Stamens indefinite. Polypetalous: carpella concrete: germ 1-celled, pedicelled: with simple parietal placenta, and continuous enlarged disk: seeds reniform. (cleome, fetid mustard.)
64. *Resedaceæ.* Fruit composed of three carpels. Ovules indefinite: germ 1-celled, with a parietal placenta, dehiscent fruit: flowers irregular, partly sterile; embryo reniform. Tonic, used in dyeing. (mignonette, dyers weed.)

2d Alliance. *Violales.* Stamens few, with no crown to the flower.

80. *Violaceæ.* Leaves with stipules. Polypetalous: stamens definite (5): carpella concrete: germ one-celled, with narrow parietal placentæ: embryo erect. (violet.)
68. *Droseraceæ.* Leaves circinate when young. Polypetalous: stamens definite: carpella concrete: germ 1-celled, with narrow parietal placentæ: divisions of calyx 5: embryo erect: vernation circinate. (venus' fly-trap, sun-dew.)

3d Alliance. *Passionales.* Flowers with a ring or crown of sterile stamens. Petioles generally glandular.

97. *Passifloreæ.* Leaves with stipules. Polypetalous: stamens definite: filamentous or membranaceous processes on the tube of the calyx: carpella concrete: germ superior, 1-celled, with parietal placentæ: leaves glandular. seeds arilled: seeds attached in rows to placentae, with a bristle-sculptured testa surrounded by an arillus: embryo straight in fleshy albumen; radicle turned towards the hilum; cotyledons flat, leafy. (the passion-flower.)

97. *Papayaceæ.* Flowers not having both stamens and pistils. Monopetalous; flowers regular, diclinous: germ superior, 1-celled, with 5 parietal placentae: seed enveloped in a loose mucous coat with a brittle pitted testa. embryo in the axis of fleshy albumen: cotyledons flat; radicle terete, turned towards the hilum. (pawpaw tree.)

88. *Turneraceæ.* Stipules absent: ovary sessile: crown 0. Polypetalous: stamens 5 or 10: carpella concrete: germ superior, 1-celled, with 3 parietal placentæ: corol with a twisted æstivation. (false rock-rose.)

Fourth. CALYCOSE GROUP OF ALLIANCES. Calyx incompletely whorled; two of the sepals being exterior.

1st Alliance. *Guttales.* Polyandrous. Albumen absent. Petals equal in number to the sepals.

68. *Hypericineæ.* Styles several. Seeds numerous. Polypetalous: stamens indefinite. regular, polyadelphous: carpella concrete: germ many-celled with placentæ in the axis: calyx irregular with imbricate æstivation: seeds imbricate; yellow resinous juice. (John's-wort, Peter's-wort.)

2d Alliance. *Theales.* Polyandrous. Albumen absent. Petals unequal to the sepals in number.

70. *Ternstromiaceæ.* Stamens adelphous, indefinite. carpella concrete: germ many-celled with the placentæ in the axis: calyx imbricated, many leaved. (tea, holly-bay.)

3d Alliance. *Acerales.* Stamens definite. Flowers unsymmetrical.

66. *Acerineæ.* Petals without appendages. Fruit indehiscent, winged, consisting of two carpels. Polypetalous: stamens definite: calyx imbricate: carpella concrete: germ of several cells with placentæ in the axis: an imbricated axis: flowers irregular: ovules erect, definite: petals without appendages: fruit winged. (maple tree, box-elder.)

65. *Sapindiaceæ.* Petals having scales in front. Fruit indehiscent, consisting of 3 carpels. A disk. Polypetalous: stamens irregularly arranged on a disk: carpella concrete: germ many-celled with placentæ in the axis: calyx imbricate: flowers irregular: with some interior appendages. (heart-seed, Indian soap.)

66. *Hippocastaneæ,* or *Æsculaceæ.* Petals without appendages: fruit dehiscent: Polypetalous: stamens definite: carpella concrete: germ many-celled with the placentæ in the axis: calyx imbricate: flowers irregular: leaves palmate. (horse-chesnut.)

93. *Polygaleæ.* Flowers papilionaceous. Stamens definite, in one parcel: carpella concrete: germ 2-celled, with placentæ in the axis: flowers irregular: ovules definite, pendulous: fruit dehiscent. (seneca snake-root, mountain flax.)

4th Alliance. *Cistales.* Flowers regular, albumen present.

86. *Elatineæ.* Stamens equal to the number of petals. Polypetalous: stamens distinct, definite: carpella concrete: germ many-celled, with placentæ in axis: calyx imbricated: flowers regular: seed with straight embryo: stigmas capitate. (mud purslane.)

82. *Lineæ.* Decandrous, without stipules. Polypetalous: stamens definite: carpella concrete: germ entire, many-celled, with placentæ in the axis: calyx regular, imbricate: flowers regular: ovules definite, pendulous: stigmas capitate: seeds in each cell single, compressed, inverted: albumen usually absent; inner lining of the testa tumid: embryo straight, fleshy, with the radicle pointing towards the hilum; cotyledons flat. (flax.)

80. *Cistineæ.* Polyandrous: style simple: radical, remote from the hilum. Polypetalous: stamens indefinite: carpella concrete: germ 1-celled, with narrow parietal placentæ: embryo inverted. (rock rose, pinweed, false heath.

Fifth. Syncarpous Group of Alliances. Carpels compactly united, and disagreeing with the four preceding groups, in their essential characters.

1st Alliance. *Malvales.* Estivation of calyx valvate: carpels 4 or more.

74. *Malvaceæ.* Polypetalous: stamens monodelphous, with 1-celled anthers: carpella concrete: germ many-celled: the placentæ in the axis:. calyx with valvate æstivation: anthers 1-celled, bursting longitudinally; no disk: seeds sometimes hairy; albumen none, or in exceedingly small quantity; embryo curved, with twisted and doubled cotyledons. (mallows, hollyhock, flower-of-an-hour.)

79. *Tiliaceæ.* Polypetalous: stamens distinct: carpella concrete: germ many-celled, with placentæ in the axis: calyx with valvate æstivation: anthers bursting longitudinally: glands between the petals and germ. (basswood, lime-tree.)

91. *Salicariæ,* or *Lythraceæ.* Polypetalous: carpella concrete: germ superior, many-celled: calyx tubular, with short teeth, covering the capsule. (swamp willow-herb, wax bush.) Stamens on a tubular calyx.

2d Alliance. *Meliales.* Estivation of calyx imbricated: carpels four or more.

71. *Meliaceæ.* Polypetalous: stamens definite, combined in a long tube: carpella concrete: germ many-celled, with placentæ in the axis: calyx imbricate: flowers symmetrical: embryo of the seed straight, wingless: anthers sub-sessile. (bead-tree.)

71. *Cedreleæ.* Somewhat monadelphous. Polypetalous: stamens definite, combined in a tube: carpella concrete: germ many-celled, with placentæ in the axis: calyx imbricated: flowers symmetrical: seeds winged: embryo strait: anthers sub-sessile. (mahogany.)

70. *Aurantiaceæ.* Polypetalous: stamens definite: carpella concrete: germ many-celled, entire: flowers symmetrical: ovules definite, pendulous: style single: fruit pulpy without: woody axis (core:) seed without albumen: leaves dotted. (orange, lemon.)

3d Alliance. *Rhamnales.* Estivation of calyx valvate: carpels fewer than four.

95. *Rhamneæ.* Stamens opposite to the petals. Petals cucullate: germ superior. (buckthorn, new jersey tea.)

4th Alliance. *Euphorbiales.* Estivation of the calyx imbricated: carpels fewer than four.

96. *Euphorbiaceæ.* Apetalous: ovules definite, suspended: fruit 3-celled, 3-seeded: flowers diclinous: embryo in the midst of oily albumen: cotyledons flat; radicle superior. (spurge, caper, castor-oil plant, box.)

95. *Celastrineæ.* Flowers perfect: petals distinct. Carpella concrete: germ superior, disk fleshy: leaves without stipules. (false bitter-sweet, burning-bush.)

95. *Staphylleaceæ.* Leaves compound, with common and partial stipules. Germ superior, many-celled, surrounded by a fleshy disk. (bladder-nut.)

5th Alliance. *Silenales.* Embryo rolled round mealy albumen; or herbs with leaves having turned joints.

86. *Portulaceæ.* Sepals two. Polypetalous: stamens not symmetrical: carpella concrete: germ 1-celled: stamens double the petals in number: seeds without pericarp: embryo curved around the albumen. (purslane, spring beauty.)

82. *Caryophylleæ. Silenaceæ,* or *Alsinaceæ.* Sepals united or distinct, 4 or 5 in number. Stamens definite: carpella concrete: germ with placentæ in the axis: calyx imbricated: flowers regular: embryo of the seed coiled round mealy albumen: leaves with herbaceous stems. (pink, soap-wort, sand-wort, catch-fly, carpet-weed.)

30. *Illecebreæ.* Leaves with stipules. Polypetalous: stamens opposite the divisions of the calyx; petals minute, or wanting. carpella concrete; germ 1-celled: leaves with scarious stipules. (forked chickweed.)

Sixth. Gynobaseose Group of Alliances. Carpels not exceeding five, diverging at the base, arranged in a single row around an elevated axis or gynobase. Stamens usually separate from the calyx (or hypogynous.)

1st Alliance. *Rutales.* Style single: leaves dotted.

81. *Rutaceæ.* Stipules none. Polypetalous: stamens definite: carpella concrete: germ entire, many-celled: calyx imbricated: flowers monoclinous, regular: fruit capsular. (rue.)

81. *Zygophylleæ.* Leaves opposite. Stipules. Polypetalous: stamens definite: carpella concrete: germ entire, many celled: calyx imbricate: flowers regular: ovules pendulous: stamens arising from scales.

94. *Zanthoxyleæ.* Diœcious. Stamens definite: carpella concrete: calyx imbricate: ovules pendulous: fruit a drupe, or capsule. (prickly ash, toothache bush.)

2d Alliance. *Geraniales.* Styles distinct—at least near the top: carpels combined.

73. *Geraniaceæ.* Polypetalous: stamens monadelphous: carpella concrete: germ entire, many-celled: calyx imbricate: flowers symmetrical: ovules pendulous, solitary: carpella adhering to a woody axis. Fruit beaked, formed of 5 pieces cohering around a lengthened, indurated axis, each piece consisting of one cell, containing one seed, having an arillate covering. Seed solitary, pendulous, without albumen; embryo curved; radicle pointing to the base of the cell; cotyledons, foliaceous, convolute and plaited. (geranium, herb robert, crane-bill.)

73. *Balsamineæ.* Fruit not beaked Polypetalous: stamens definite: carpella concrete: germ 5-celled, with placentæ in the axis: calyx imbricated: flowers irregular, spurred: ovules indefinite: seeds numerous, suspended: albumen none; embryo straight: radicle superior: cotyledons plano-convex. (balsam-weed, jewel-weed, touch-me-not.)

73. *Tropæoleæ.* Polypetalous: stamens definite, distinct: carpella concrete: germ 3-celled, with placentæ in the axis: calyx imbricate, with one of the divisions spurred: flowers irregular: ovules pendulous: seeds large, without albumen; embryo large; cotyledons straight, thick, germ single, styles 1: capsule covered by the calyx: seeds numerous. (nasturtion.)

73. *Oxalideæ.* Fruit not beaked. Polypetalous: stamens definite, spread or attached at the base: carpella concrete: germ many-celled, placentæ in the axis: calyx imbricate: seeds few, fixed to the axis, enclosed within a fleshy integument, which curls back when ripe, and scatters the seed: albumen fleshy-cartilaginous; embryo of the length of the albumen: radicle long, pointing to the hilum and foliaceous cotyledons. (wood sorrel.)

Seventh. Apocarpose Group of Alliances. Carpels distinct, separable by their faces, or solitary.

1st Alliance. *Rosales.* -Albumen wholly absent.

92. *Rosaceæ.* Flowers quite regular. Styles lateral: germs numerous, simple: stamens regular: seeds definite, with albumen: embryo straight, with a terete, short radicle, pointing to the hilum: cotyledons flat; albumen becoming obliterated in ripening, or remaining fleshy: leaves alternate, stipuled. (rose, strawberry, raspberry, avens root, steeple bush.)

92. *Pomaceæ.* Stamens indefinite: germs adhering to the calyx: leaves stipuled, alternate: seeds ascending, solitary. (becoming double and triple by culture;) albumen none: embryo erect: cotyledons flattish: radicle short, conical. (apple, thorn, quince, shad-bush, thorn-bush, mountain ash.)

92. *Amygdaleæ.* Germ superior, simple, solitary, with a terminal style: stamens regular, indefinite: fruit drupaceous: seed suspended, without albumen; embryo straight; radicle pointing to the hilum; cotyledons thick: leaves stipuled, alternate, simple. *Always contain prussic acid.* Astringent, febrifuge; seed and leaves often narcotic. (peach, plumb, cherry, almond.)

92. *Sanguisorbeæ.* Petals may be called calyx leaves: germs definite, suspended: calyx tubular, indurated: fruit dehiscent: leaves stipuled, alternate: nut solitary, inclosed in the tube of the calyx: seed solitary; embryo without albumen; radicle superior; cotyledons large, plano-convex. (burnet, burnt saxifrage, lady's mantle.)

93. *Leguminosæ.* Legume-bearing, with the radicle next the hilum. Germs superior, solitary, simple, with a terminal style: stamens definite: fruit leguminous: seeds attached to the upper suture; embryo either straight, or with the radicle bent on the cotyledons; albumen none: cotyledons expanding below, or above ground: leaves stiped, alternate. (pea, indigo, locust tree, peanut, clover.)

92. *Chrysobalaneæ*, or *Mimoseæ.* Germ superior, solitary; style from its base: petals and stamens irregular: fruit drupaceous: leaves stipuled, simple, alternate: seed mostly solitary, erect; embryo with fleshy cotyledons, and no albumen. (sensative plant.)

92. *Calycantheæ.* Petals very numerous. Stamens definite: divisions of the calyx numerous, imbricated: germs inclosed in a fleshy tube: seeds suspended, rarely ascending; embryo straight: radicle short, terete, pointing to the hilum: cotyledons flat; albumen becomes almost obliterated in ripening: anthers turned outwards; leaves opposite, without stipules. (carolina alspice.)

2d Alliance. *Saxales.* Carpels two, diverging: seeds very numerous, with albumen.

84. *Saxifrageæ.* Leaves alternate. Polypetalous: stamens definite: ovaria adhering more or less to the calyx, and to each other: seeds indefinite: stipules. (saxifrage, mitrewort, alum root, grass of parnassus.)

3d. Alliance. *Craszales.* Carpels several: seeds very numerous, with albumen.

83. *Crassulaceæ.* Polypetalous, succulent: stamens definite: germs superior, distinct, surrounded at the base by scales. (virginia orpine, house leek, liveforever.)

4th Alliance. *Balsames.* Abounding in balsamic juice.

94. *Amyrideæ.* Stamens definite; anthers bursting by longitudinal slits: carpella distinct, simple: leaves dotted, without stipules: seeds without albumen; cotyledons fleshy; radicle superior, very short.

94. *Anacardiaceæ.* Germ superior, simple: leaves without dots or stipules. (sumach, poison ivy, poison ash.)

II. INCOMPLETE SUB-CLASS.

First. RECTEMBROSE GROUP OF ALLIANCES. Calyx very imperfect: embryo straight.

1st Alliance. *Amentales.* Flowers in catkins. Carpels several.

99. *Cupulifereæ.* Pistillate flowers surrounded by a cupulea. Apetalous: ovules definite, pendulous, 2 or more in each cell: flowers in aments: ovaria inferior, single, inclosed in a cup: leaves alternate, stiped, with veins straight from the mid-rib to the margin: fruit a bony, coriaceous 1-celled, nut more or less inclosed in the cup-like involucre or perianth: seed solitary: embryo large, with plano convex, fleshy cotyledons; radicle minute, superior. Trees. (oak, hazle nut, chesnut, beech.)

99. *Betulineæ.* Pistillate flowers in sealy catkins. Achlamydeous: germ 2 celled: seeds definite, pendulous: flowers in aments: seed pendulous, naked: albumen none; embryo straight; radicle superior. (alder, hop-hound beam, birch, blue beech.)

2d Alliance. *Urticales.* Carpels solitary, or several: stems continuous without sheaths.

98. *Urticeæ.* Leaves rough: anthers bursting longitudinally. Apetalous: ovula definite: calyx inferior: stipules distinct: fruit a simple indehiscent nut, surrounded either by a membranous or fleshy calyx: embryo straight curved, or spiral, with or without albumen: radicle superior, remote from the hilum; cotyledons face to face. Bark tough. (nettle, hop, hemp.)

98. *Artocarpeæ* or *Moreæ.* Apetalous, lactescent: flowers in fleshy heads: ovula definite, suspended: leaves alternate, stiped: seed suspended, solitary: embryo inverted; radicle pointing to the hilum, straight; inside or outside of the albumen. The poison Upas and Caoutohoue tree, are here. (mulberry tree.)

88, *Ceratophylleæ.* Ovula definite, pendulous: flowers solitary: germ 1-celled: calyx many-parted. (horn-wort.)

96. *Empetreæ.* Flowers hypogynous. Apetalous: ovules definite, ascending: calyx leaves inferior, distinct, imbricated: stamens distinct: seeds solitary, ascending; embryo terete, in the axis of a fleshy, watery, albumen; radicle inferior. (black crow-berry.)

99. *Myriceæ.* Aromatic, with hypogynous flowers. Achlamydeous: germ 1-celled: ovules erect: embryo naked: flowers amentaceous: seeds solitary, erect: embryo without albumen; cotyledons plano-convex: radicle short, superior. (sweet-fern, bayberry.)

94. *Juglandeæ.* Semi-balsamic, with epigynous flowers. Trees. Ovules ascending: flowers in aments: calyx superior: fruit dry-drupaceous, 1-celled: seeds 4-lobed: embryo of the form of the seed; no albumen: cotyledons fleshy, 2-lobed, wrinkled: radicle superior. (butter-nut, walnut.)

3d Alliance. *Ulmales.* Leaves rough, carpels two.

99. *Ulmaceæ.* Apetalous: ovula definite, suspended: flowers solitary or loosely clustered: fruit 2-celled, dehiscent: leaves scabrous, alternate, stipuled: seeds solitary pendulous; albumen none, or scarcely any; embryo with foliaceous cotyledons; radicle superior. (elm, nettle tree.)

4th Alliance. *Datiscales.* Seeds numerous. Leaves alternate.

98. *Datisceæ.* Flowers epigynous. Apetalous: ovules indefinite: germ 1-celled, with parietal placentæ: fruit dehiscent: flowers diœcious: seeds in membranous reticulated integument: embryo straight; albumen none; radicle turned towards the hilum. (false hemp, paper mulberry.)

Second. Achlamydose Group of Alliances. Calyx and corol altogether absent.

1st Alliance. *Piperales.* Flowers in spikes. Apocarpous.

98. *Saurureæ.* Leaves alternate: carpels several. Achlamydeous: (no calyx nor corol:) carpellæ 4: ovules ascending: seeds with a membranaceous integument; embryo minute, in a fleshy lentiform seed, outside of a hard albumen, remote from the hilum. (lizard tail.)

98. *Piperaceæ.* Leaves alternate: carpels solitary. Achlamydeous: germ 1-celled: ovules erect: embryo enclosed in a sack at the end of the seed opposite the hilum, outside of the albumen. (pepper.)

2d Alliance. *Salicales.* Flowers in catkins. Apocarpous.

99. *Salicineæ.* Many-seeded. Achlamydeous: 1 or 2-celled ovarium: seeds indefinite comose: flowers amentaceous: seeds adhering below, comose: albumen none; embryo erect; radicle inferior. (willow, poplar.)

99. *Plataneæ.* One-seeded. Achlamydeous: germ 1-celled: ovules pendulous: leaves alternate: flowers amentaceous: seeds solitary, (rarely in pairs.) pendulous, elongated: testa thick: embryo long, terete, lying in the axis of the fleshy albumen; radicle turned to the extremity, (or opposite,) the hilum. (button-wood tree, sweet gum.)

100. *Coniferæ* or *Balsamaceæ.* Many-seeded: seeds purely naked: resinous trees, with branched trunks: leaves simple with parallel veins: seeds with hard crustaceous integuments: embryo in fleshy, oily, albumen, with opposite cotyledons; radicle next the apex of the seed. (pine tree, juniper, yew tree, cypress, tree of life.)

3d Alliance. *Podostemales.* Carpels two, united: seeds indefinite.

7. *Fluviales,* or *Podostemaceæ.* Caulescent, floating, no albumen: embryo with a slit: stamens definite: dry superior fruit, with pendulous seeds. Water.

5th Alliance. *Callitrichales.* Carpels several.

88. *Callitrichineæ.* Sub-achlamydeous, herbaceous: germ 4-celled: seed peltate, solitary. (water chickweed.)

Third. Tubiferous Group of Alliances. Calyx tubular, often resembling a corol; and not agreeing in character with other groups.

1st Alliance. *Daphnales.* Calyx with imbricated estivation. Carpels solitary.

24. *Elaeagneae.* Stamens distinct: leaves scurfy. Apetalous, with definite erect ovules: a tubular inferior calyx, with alternating stamens: leaves leprous: mostly dioecious: calyx rather inferior. Trees or shrubs covered with leprous scales; leaves alternate or opposite, entire, stipuled.

25. *Thymeleae.* Stamens distinct: leaves smooth. Apetalous, with definite pendulous ovules: germ superior, 1-celled: leaves without stipules. Shrubby. Flowers in heads or spikes. (leather-wood, moose-wood.)

2d Alliance. *Laureales.* Valves of the anthers curved backwards.

27. *Laurineae.* Leafy, arborescent, aromatic plants, with fleshy cotyledons. Aromatic, with definite suspended ovules, and bursting by recurved valves. Trees and shrubs: flowers panicled or umbelled. (sassafras, spice-bush, camphor.)

Fourth. Columnose Group of Alliances. Stamens delphous: ovary about six-celled—especially if the flower is epigynous.

1st Alliance. *Aristolochales.* Flowers epigynous.

23. *Aristolochiae.* Ovules indefinite: germ many-celled: calyx valve-like: sub-monoecious: calyx superior, tubular: style axillary, dual, solitary. (Wild ginger-root, birth-wort.)

Fifth. Curvembrose Group of Alliances. Embryo curved around the albumen, or having the form of a horseshoe or spiral: calyx rarely tubular.

1st Alliance. *Chenopodales.* Albumen presents radicle next the hilum.

30. *Amarantaceae.* Apetalous: flowers dry with numerous bracts: seeds erect; embryo curved round a mealy albumen: radicle next the hilum: stamens hypogynous: calyx scarious bracteolate. (batchelor button, amaranth, coxcomb.)

29. *Chenopodeae.* Apetalous: flowers herbaceous: carpels solitary: seeds erect, with a curved embryo; radicle next the hilum: herbaceous: calyx not bracted. (beet pig-weed, oak-of-jerusalem, spinage, salt-wort.)

29. *Phytolacceae.* Apetalous: flowers colored: carpels several: ovula erect, definite: calyx inferior, many-leaved: stamens perigynous, distinct: germ many-celled, embryo rolled in a mealy albumen; radicle next the hilum: stigmas terminal. (poke-weed.)

2d Alliance. *Polygonales.* Albumen present: radicle ovary, from the hilum.

28. *Polygoneae.* Calyx and corol in one: ovula erect, definite: stipules ochreous: radicle distant from the hilum: leaves alternate, stipuled. (buckwheat, dock rhubarb.)

3d Alliance. *Sclerales.* Tube of the calyx hardended.

30. *Sclerantheae.* Apetalous: border of the calyx herbaceous: a single seed attached to a cord arising from the base of the cell: calyx inferior, tubular indurated: stamens perigynous: an embryo curved round mealy albumen; radicle next the hilum. (gravel chick-weed.)

32. *Nyctagineae.* Apetalous: ovula ascending: calyx with a petaloid border, inferior, tubular, hardening at the base: stamens hypogynous: embryo surrounding floury albumen. (four-o'clock.)

4th Alliance. *Cocculares.* Albumen present. Flowers of ternary structure, dichlamydeous.

77. *Menispermeæ.* Polypetalous: carpella simple, distinct: flowers diclinous, minute: stem shrubby, twining. (moonseed.)

III. MONOPETALOUS SUB-CLASS.

First. Polycarpous Group of Alliances. Flowers hypogynous (rarely epigynous.) ovary composed of many carpels.

1st Alliance. *Ericales.* Anthers opening by pores: carpels 4, 5, or more.

51. *Pyrolaceæ* or *Monotropaceæ.* Flowers regular: germ superior, many-seeded: style single declined: anther 2 celled: dry, appendaged: seeds winged minute: embryo minute, inverted, at the extremity of a fleshy albumen. (prince's pine, pear-leaf, bird-nest, albany beechdrops.)

51. *Ericeæ.* Shrubby without stipules: flowers regular: ovary superior, many-seeded: style single: anthers 2-celled, dry, appendaged: seeds without wings, minute with the embryo in the axis of a fleshy albumen; testa firmly adhering to the nucleus; radicle opposite the hilum. Leaves of some evergreen. (honeysuckle, wintergreen, laurel.)

51. *Vaccineæ.* Ovary inferior: corol regular: fruit succulent: ovules indefinite; anthers spurred: leaves alternate: seeds minute; embryo straight, in the axis of a fleshy albumen; cotyledons very short; radicle long, inferior. (whortleberry, cranberry.)

2d Alliance. *Primulales.* Anthers bursting longitudinally: carpels 4 or 5.

35. *Primulacea.* Herbaceous: flowers regular, stamens opposite to divisions of petals: germ entire, superior, 1-celled with a free central placenta: fruit capsular. Herbaceous. (primrose, chick wintergreen, loosestrife.)

48. *Sapoteae.* Milky plants. Calyx and corol double. Germ with several cells:
flowers regular, ovules erect definite: corol imbricate: seeds with a bony coat.
49. *Ebenaceae.* Watery plants, with twice as many stamens as petals. Germ
superior, many-celled: flowers regular, diclinous: ovules collateral definite, pendu-
ous: corol 3—6-lobed, with stems a multiple of the lobes: seeds albuminous. (ebony
wood.)
71. *Styraceae.* Monopetalous: germ inferior, many-celled; ovula definite: leaves
alternate. (benzoin.)
95. *Ilicineae* or *Aquifoliaceae.* Watery plants. Stamens and sepals same number.
Germ superior, 2 or 6-celled: flowers regular: corol 4 to 6 lobed. (holly winter berry.)

3d Alliance. *Volvales.* Carpels from 2 to 4.

44 *Convolvulaceae.* Twining plants: some are leafless with spiral embryo. Germ
2 to 4-celled: flowers regular: ovules definite erect: corol plaited: cotyledons shrivel-
led. (morning glory, sweet potatoe, dodder.)
45. *Polemoniaceae.* Erect plants, with imbricated corol, and 3 carpels. Flowers
regular: germ superior, 3-celled, peltate or ascending ovules, and a pentandrous, 5-
parted corol, estivation imbricated. (greek valerian, lehnidia, phlox.)
44. *Hydroleaceae.* Germ superior, 2 or 3-celled: styles numerous: seeds indefinite:
corol plaited or imbricated. (bind-weed, morning glory, dodder.)

Second. EPIGYNOSE GROUP OF ALLIANCES. Flowers epigynose. Ovary composed
of two or many carpels.

1st Alliance. *Campanales.* Stipules absent. Seeds indefinite.

52. *Lobeliaceae.* Milky: germ inferior: corol irregular: stamens syngenesious
(united anthers): ovula indefinite: leaves alternate: pollen oval. *Acrid* when they
contain milk, mostly *poisonous.* (wild tobacco, cardinal flower.)
52. *Campanulaceae.* Milky: germ inferior: corol regular: fruit capsular; ovules
indefinite: leaves alternate: pollen round. (venus' looking-glass, bell-flower, hair-bell.)

2d Alliance. *Cinchonales.* Stipules between the leaves.

57. *Cinchonaceae.* Albumen present. Germ inferior: leaves entire opposite, with
intermediate stipules. (peruvian bark, button bush, partridge berry.)

3d Alliance. *Capreales.* Stipules none. Seeds definite in number.

58. *Caprifoliaceae.* Germ inferior, many-celled: ovula pendulous: leaves opposite
without stipules: seeds either solitary, pendulous, or numerous and attached to the
axis; testa often bony: embryo straight, in fleshy albumen: radicle superior. (horse-
ginseng, fly honey-suckle, elder, dog-wood, linnea.)

4th Alliance. *Stellales.* Fruit double: leaves whorled, with no stipules.

57. *Stellatae.* Leaves scabrous, stellate, or whorled: fruit didymous: ovules solitary,
erect: stems angular: stipules none. (bed-straw, goose-grass, madder.)

Third. AGGREGOSE GROUP OF ALLIANCES. Ovary consisting of but one perfect
carpel.

1st Alliance. *Astrales.* Anthers syngenesious.

53. *Cichoraceae.* Sap generally milky, bitter: florets all ligulate and perfect: corols
mostly yellow, rarely blue. They are hawkweed-like (*Hieraceae*) (succory, endive,
hawkweed) or dandelion-like (*Taraxaceae*) (dandelion, vegetable oyster, lettuce.)
54. *Cinarocephalae.* Corols tubular: receptacles fleshy and chaffy: stigma above
the style articulated: egret somewhat rigid: leaves alternate, sometimes spinose;
flowers capitate. They are mostly thistle-like (*Carduaceae*) (thistle, burdock, mary-
gold.)
55. *Corymbiferae.* Florets tubular-ligulate, mostly radiate: receptacle scarcely
fleshy: stigma above the style not articulated: inflorescence often corymbed. They
are elicampane-like (*Inulae*) (life-everlasting, elecampane, marygold;) star-flower-like
(*Astereae*) (flea-bane, golden rod, daisy;) boneset-like (*Eupatorineae*) (coltfoot,
boneset, ragwort;) sunflower-like (*Helianthear*) (sunflower, beggar-tick, ox-eyed
daisy;) mayweed-like (*Anthemideae*) (tansey, yarrow;) hogweed-like (*Ambrosiaceae.*)
Note. The Ambrosia is scarcely entitled to a place in this alliance. (hogweed,
clott-bur, highwater shrub.)

2d Alliance. *Dipsales.* Anthers distinct. Flowers epigynous.

30. *Dipsaceæ.* Carpel solitary: germ inferior, 1-celled: flowers capitate: anthers distinct: seeds pendulous, albuminous. (teasel, scabious.)
30. *Valerianeæ.* Calyx [illegible] [illegible] [illegible] germ 1-celled: stamens distinct: seeds exalbuminous, pendulous. ([illegible] valerian, lamb-lettuce.)

3d Alliance. *Plantales.* Style single; stigma naked.

31. *Plantagineæ.* Fruit [illegible] [illegible]. Tetrandrous: inner calyx, petal of scarious monopetalous: germ superior, 2 or 4-celled: stigma [illegible]: flowers spiked: [illegible] [illegible] [illegible] transversely. (plantain, ribwort.)

4th Alliance. *Plumbales.* Styles five: flowers formed upon the quinary plan.

33. *Plumbagineæ.* Germ superior, 1-celled, containing one ovule suspended from the apex of a cord: stigma naked. (lead-wort, marsh-rosemary.)

Fourth. LABIOSE GROUP OF ALLIANCES. Flowers hypogynous, unsymmetrical: ovary composed of two carpels.

1st Alliance. *Labiales.* Ovules from two to four, in each carpel.

42. *Labiatæ.* Germ superior: fruit divided into four lobes: flowers irregular, whorled, spiked, or capitate: seeds erect, with little or no albumen: embryo erect: cotyledons flat. (sage, rosemary, mint, savory, pennyroyal, catnep, self-heal.)
41. *Verbenaceæ.* Germ superior [illegible], a terminal style: flowers irregular: fruit indehiscent, 2 to 4-celled, opposite to the leaves: seeds solitary with an inferior radicle. (vervain, fog-fruit.)

2d Alliance. *Bignoniales.* Neither albumen nor hooks to the seeds.

38. *Bignoniaceæ.* Seeds winged: germ 2-celled, winged: ovules on indefinite irregular imbricate calyx: stipules membranaceous.
40. *Pedalineæ.* Germ superior, becoming a bony nut-like fruit: flowers irregular: seed without albumen. (unicorn plant, oily grain.)

3d Alliance. *Secrophulales.* Seeds numerous, with albumen.

37. *Scrophularineæ.* Leafy plants, with superior ovary: capsule superior, 2-celled: flowers irregular: seeds indefinite: embryo [illegible] within fleshy albumen: radicle turned towards the hilum. (fox-glove, culver's physic, snake head.)
36. *Orobancheæ.* Leafless plants with a minute embryo. Plants destitute of green herbage, parasitical: germ superior, 1-celled: flowers irregular: seeds indefinite, very minute: embryo minute, inverted in the apex of fleshy albumen: herbaceous, leafless, of a dull yellowish white. (squaw-root, beech-drop.)

4th Alliance. *Acanthales.* Seed without albumen, with hooks. Calyx remarkably imbricated.

39. *Acanthaceæ.* Capsule superior, 2-celled: irregular flowers: flowers imbricated. (malabar-nut, water-willow.)

5th Alliance. *Lentibules.* A free central placenta.

35. *Lentibulariæ.* Flowers irregular: germ superior, 1-celled, with a free central placenta. (bladder-wort, butter-wort.)

Fifth. DICARPOUS GROUP OF ALLIANCES. Flowers hypogynous and symmetrical. Ovary composed of two carpels.

1st Alliance. *Gentianales.* Flowers symmetrical. Carpels standing at the right and left of the axis of inflorescence.

46. *Gentianeæ.* Corol withers on the fruit. In estivation imbricated. Flowers regular: germ superior, 1 or 2-celled: corol withering, [illegible] seeds [illegible]: fruit capsular: leaves sessile, entire. (gentian, venus' pride, floating heart, buck-bean.)
46. *Spigeliaceæ.* Estivation of corol valvate. Flowers regular: germ superior, 2-celled, with several ovules: corol valve-like: fruit dry: leaves opposite. (carolina pink-root.)
47. *Apocyneæ.* Sap milky: estivation contorted: stamens partly distinct. Germ superior, double; apex connected by a simple stigma: flowers regular: pollen powdery:

corol contorted: seeds with fleshy or cartilaginous albumen: testa simple; embryo foliaceous; plumula inconspicuous; radicle turned towards the hilum. (dogbane, wandering milkweed, [illegible] dog.)

47. *Asclepiadeae.* Anthers cohering to the stigma: sap milky. Germ double, superior, apex of which is connected by a common stigma. Flowers regular, pollen glutinous, corol contorted: seeds numerous, compressed, pendulous; albumen thin; embryo straight, cotyledons foliaceous: radicle superior: plumula inconspicuous. (milk-weed, butterfly weed, periwinkle.)

2d. Alliance. *Oleales.* Diandrous.

31. *Oleineae.* Estivation of corol valvate. Flowers regular: germ superior, 2-celled, with pendulous seeds: stamens 2: corol valvate. Fraxinus is often apetalous. (olive lilac, fringe-tree, prim, ash.)

34. *Jasmineae.* Estivation of corol imbricate. Flowers regular: germ superior, 2-celled: seeds erect: stamens 2: corol imbricate. (jasmine.)

3d Alliance, *Echiales.* Inflorescence gyrate.

Boragineae. Fruit deeply lobed. Flowers regular: germ superior, deeply lobed: stems round: nuts 4, distinct, seed separable from its integument, (affectedly called pericarp,) without albumen: embryo with a superior radicle: cotyledons parallel with the axis, plano-convex. (Sometimes the cotyledons are double.) (borage, cumfry, houn-tongue, bugloss.)

43. *Heliotropiceae.* Flowers regular: germ superior, 4-celled with solitary pendulous ovules: seeds with plano-convex cotyledons, exalbuminous, pendulous, solitary; embryo with minute radicle curved downwards, and turned towards the hilum. (turnsole.)

43. *Hydrophylleae.* Flowers regular: germ superior, 1-celled, with ovules attached to parietal, or fungous, stalked placenta: stigma naked: embryo terete, lying towards the end of the albumen, in cartilaginous albumen; radicle superior, next to the hilum. (bur-flower, water-leaf.)

4th Alliance. *Solanales.* Flowers symmetrical. Carpels standing forward and backward of the axis of inflorescence.

35. *Solaneae.* Embryo curved, cotyledons cylindrical. Flowers regular: germ superior 2-celled: ovules indefinite: corol plaited: fruit succulent; leaves alternate: seeds numerous sessile: embryo more or less curved: often out of the center, lying in fleshy albumen; radicle next the hilum. *Poisonous* fruit and herbage, with nutritiuos *wholesome roots.* (potatoe, red pepper, tobacco, mullein, henbane.)

AGYMNOSPERMOUS* PLANTS. These are the only phenogamous plants whose seeds are destitute of tunics, or other covering, outside of the cuticle. They are not Gymnospermae: for those have a tunic-like covering; but no proper pericarp in its original sense. It is the absence of the latter envelope only, to which this term is applied.

100. *Cycadeae.* Seeds with no covering outside of the cuticle, mucilaginous: trunk round cylindrical, undivided: leaves pinnate, with gyrate vernation, and parallel veins: ovula solitary: totally naked, with no covering but a contracted leaf, or scale on which they grow: embryo in the fleshy, or horny, albumen: radical next the apex of the seed, where it hangs by a long funicle. (sago plant.)

100. *Coniferae.* Seeds with no covering outside of the cuticle: resinous trees, with trunks: leaves simple with parallel veins: seeds with hard crustaceous integuments; embryo in fleshy, oily, albumen, with opposite cotyledons; radicle next the apex of the seed. *Balsamic, stomachic, healing.* (red cedar, juniper, tree of life, pine, yew.)

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*See definition and etymology, in a remark at the end of the description of the dicotyledonous class.

SECOND CLASS, OR GRAND DIVISION.

MONOCOTYLEDONAE, OR ENDOGENAE.

First. EPIGYNOSE GROUP OF ALLIANCES. Anthers distinct. Flowers complete. Ovary inferior.

1st Alliance. *Amomales.* Leaves with veins diverging from the midrib to the margin.

20. *Marantaceæ.* Monandrous. Three petaloid: a single 1-celled anther, and a petaloid filament. (canna.)

2d Alliance. *Narcissales.* Hexandrous and six-petalled plants.

17. *Hypoxideae.* Flowers small; texture harsh. Six-petaloid: germ inferior: corol 6-parted, (called perianth by some) with equitant divisions: seeds with a black brittle integument, and a lateral beak-like hilum; embryo in the axis of a fleshy albumen, its radicle having no certain direction. (star-grass.)
17. *Amaryllideae.* Flowers large: texture smooth. Six-petaloid, bulbous, 6-stamened: germs inferior: corol 6-parted with equitant divisions: seeds with fleshy albumen; embryo nearly straight, and radicle turned towards the hilum. Leaves ensiform. (snowdrop, jacobed.)

3d Alliance. *Exales.* Triandrous.

18. *Irideae.* Six-petaloid, triandrous: germ inferior: anthers turned outwards: leaves equitant, except the crocus. (flower de-luce, saffron, blue-eyed grass.)

4th Alliance. *Bromeliales.* Tripetaloid scurfy plants, with albumen.

15. *Bromeliaceae.* Three-petalled: 6 stamens: germ inferior, and an albuminous embryo. (pine apple, pine herb.)

5th Alliance. *Hydrales.* Tripetaloid smooth plants. Stamens more than six; no albumen.

88. *Hydrocharideæ.* Polypetalous: stamens definite: carpella concrete: germ inferior: ovules pendulous, definite: cotyledons unequal. (eardrop.)

Second. SPADICOSE GROUP OF ALLIANCES. Flowers herbaceous, or imperfect, or absent, or even colored: in that case with its parts in twos, and the ovary superior.

1st Alliance. *Arales.* Flowers on a spadix: fruit either berried, or capsular.
7. *Aroideæ.* Spadiceous, with simple succulent, or capsular fruit; a developed spathe, and sub-sessile anthers. Flowers [illegible] are perfect. Herbaceous or shrubby. Leaves sheathing. (wild turnip, sweet flag, gold-club, ethiopian arum, skunk cabbage.)

2d Alliance. *Typhales.* Flowers on a spadix: sepals three: anthers clavate.
8. *Typhaceae.* Spadiceous, with 3 half-glumaceous valves: anthers clavate: filaments long, lax: germ solitary, pendulous. Stems without joints: leaves ensiform. No spathe calyx. (cat-tail, bur-reed.)

3d Alliance. *Smilales.* Flowers in lax racemes: leaves deciduous.
12. *Dioscoreae.* Six-petalled: ovary inferior dioicous: perianth regular, small: seeds flat, compressed, in leaf-like fruit: embryo small, near the hilum, lying in a large cavity of cartilaginous albumen. (yam root.)
12. *Smilaceae.* Six-petalled: ovary superior: flowers perfect: anthers turned inwards: perianth colored: fruit succulent, 3-celled: seed-covering membranaceous: albumen fleshy, and approaching the cartilaginous structure; embryo usually distant from the hilum: style triple. (asparagus, jacob's ladder, solomon's seal, wake-robin.)

4th Alliance. *Fluriales.* Flowers in spikes, or solitary.
7. *Fluriales.* Floaters. Ovules pendulous. Caulescent exalbuminous, with a slit embryo, definite stamens, and dry superior fruit with pendulous seeds: water plants. (pond-weed, river-weed, thread-foot.)

7. *Juncagineae.* Ovules erect. Caulescent exalbuminous, with a slit embryo, 6 stamens, and dry superior fruit with erect seeds. Bog plants, with ensiform leaves. Spiked or racemed. (flowering rush, arrow grass.)
7. *Pistiaceae.* Floaters, very cellular, with no axis of growth or scarcely any; but the stems and leaves confounded: flowers spathaceous, solitary, naked. (duck-meat, water flaxseed.

Third. Glumose Group of Alliances. Scale-like bracts, or chaffs, in the place of perianths.

1st Alliance. *Culmales.* Having straws or stalks in the place of the caulis.

10. *Gramineae.* Plants glumaceous, with pistular, cylindrical stems, and slit-leaf sheaths. Seed covering not a pericarp, but a membrane, as the brand of ground wheat: albumen farinaceous, (producing flour or meal when ground;) embryo lying on one side of the base (being the chit) of the albumen—it is lenticular, with a broad cotyledon and *developed* plumula. (redtop grass, whitetop grass, canary, wheat, oats, orchard grass, reed, chess, cane, rice, indian corn.)
9. *Cyperaceae.* Stems solid, more or less angular: leaf-sheaths entire: ovary 1-seeded: ovulum erect: nut crustaceous or bony: albumen of the form of the seed; embryo undivided, included in the albumen: pluma *inconspicuous.* Diclinous. Root fibrous. (cotten grass, sedge boy rush, galingale.)
13. *Xyrideae.* Flowers with a corol. Three-petalled, with superior concrete carpella, with a 1-celled capsule, and a parietal placentae, and capitate flowers: seed numerous, with the embryo outside of the albumen, most remote from the hilum: leaves radical, ensiform. (yellow-eyed grass, day-flower.)

Fourth. Hypogynose Group of Alliances. Flower colored, with its parts in threes: ovary superior.

1st Alliance. *Palmales.* Six-petaloid plants, with a vague embryo.
11. *Palmae.* Six-petalled, arborescent: leaves divided, rigid: germ superior 3-celled, and an embryo lies in a cartilaginous or fleshy albumen, at a distance from the hilum. Furnishes *food, oil, wine, and tonic remedies.* (cocoa, palm.)

2d Alliance. *Liliales.* Six-petalled plants, with an embryo in the axis of the albumen.
17. *Pontederaceae.* Six-petaloid: corol irregular: germ superior. Corol involute after flowering: seeds indefinite, attached to a central axis: hilum small; embryo turning-straight, being in the axis of somewhat mealy albumen. Aquatics. (pickerel-weed, mud-plantain, yellow-eyed water-grass.)
13. *Melanthaceae.* Hexandrous: styles distinct. Six-petaloid: carpella nearly separate: anthers turned outwards. Germs superior; seed with a membranous testa; albumen dense fleshy. ([illegible]-weed, blazing-star.)
14. *Liliaceae.* Hexandrous: styles consolidated. Six-petalled germ superior, highly developed corol, (colored calyx of some,) anthers turned inwards, a 3-celled, many-seeded capsule: seeds with a soft spongy coat, packed one upon another; embryo with the direction of the seed, in the axis of the fleshy albumen. (lily, tulip, crown-imperial, adder tongue.)
16. *Asphodeleae.* Six-petaloid or 6-parted: germ superior: anthers turned inwards: fruit 3-celled: seed with a hard black brittle testa; albumen fleshy including the embryo. Peduncles articulated in the middle. (hyacinth, false aloe, squill, onion.)

3d Alliance. *Commelales.* Tripetaloid plants, with three carpels, consolidated.
13. *Commelineae.* Three-petalled; have superior 3-celled capsules. Seeds often twins, with a linear hilum; embryo pulley-form, in a cavity of the fleshy albumen remote from the hilum. (day-flower, spider-wort.)

4th Alliance. *Alismales.* Tripetaloid plants, with the carpels more or less distinct.
13. *Alismaceae.* Placenta occupying the margin only of the dissepiments, or their equivalents. Three-petalled, with numerous distinct, superior germs. Aquatics: leaves with sub-parallel veins: fruit dry, not opening: seeds without albumen: embryo horse-shoe form, undivided, the same direction as the seed. (water plantain, arrow head.)

5th Alliance. *Juncales.* Flowers somewhat glumaceous.

13. *Junceae.* Flowers regular. Six-petaloid, herbaceous, with a superior germ, a half-glumaceous regular perianth, a pale soft testa, a single style, capsular fruit, and an embryo next to the hilum, within the first fleshy albumen. (bulrush, dwarf rush.)

Fifth. GYNANDROUS GROUP OF ALLIANCES. Stamens united with the styles: flowers complete: ovary inferior.

21. *Orchideae.* Stamens three, united in a central column; the two lateral abortive, and the central perfect, or the reverse. Gynandrous with three parietal placentae: leaves entire, simple: seeds numerous; albumen none; embryo a solid fleshy mass. (orchis, putty root, ladies' tresses, ladies' slipper, rattlesnake leaf.)

THIRD CLASS OR GRAND DIVISION.

ACOTYLEDONAE, OR ACROGENAE.

1st Alliance. *Filicales.* Stems fistular, vascular: reproductive organs borne upon the leaves.

Polypodiaceae. Ring of the thecae vertical. (polypod, brake, maidenhair.)

Osmundaceae. Ring wanting: thecae one-celled, ribbed. (flowering fern, one-sided dwarf, fringed climber.)

Ophioglossaceae. Ring wanting: thecae one-celled, veinless. (snake tongue, grape fern.)

2d Alliance. *Lycopodales.* Stems solid, vascular: reproductive organs growing on the stem.

Lycopodeaceae. Thecae naked. (ground-pine, rush.)

Salciniaceae. Thecae enclosed in involucres of two different forms. (salvinia.)

3d Alliance. *Muscales.* Without a vascular system: germinating processes uniting into a heterogenious body: sporules in distinct thecae.

Muscaceae. Thecae valveless, with an operculum. (common moss.)

Andraeaceae. Thecae opening into valves with an operculum.

Jungermanniaceae. Thecae opening into valves without an operculum. (succulent moss.)

Hepataceae. Thecae valveless, without an operculum. (liverwort, floating sectors.)

4th Alliance. *Charales.* Without a vascular system. Germinating processes uniting into a heterogeneous body. Reproductive organs, axillary globules.

Characeæ. Strong scented, harsh, aquatic (featherbed.)

5th Alliance. *Fungales.* Without a vascular system. Germinating processes either wholly distinct or confluent in a homogeneous body.

Fungaceae. Originating from a cavity, which veils them when young. (mushroom, wheat-rust.)

Lichenes. Originating and living in air. Cellular, rarely filamentous, with a reproductive nucleus bursting through their surface. (stone patches, tree hair.)

Algaceae. Originating and living in water. Filamentous: the filaments either solitary or several glued together, having sporidia, and viparous. (sea-paper, frog-spittle, water greenhair.)

REMARKS ON THE CRYPTOGAMIA,

WITH MORE EXTENDED MISCELLANEOUS DESCRIPTIONS.

FUNGI.

Leafless, flowerless plants, with no thallus or external sporuliferous disks, and growing in air. They are only distinguished from Lichens by their more fugitive nature, their more succulent texture, their want of thallus or expansion independent of the part that bears the reproductive matter, and by the latter being contained within their substance and not in hard distinct nuclei originating in the centre and breaking through a cortical layer. From Algae there is no absolute character of division, except their never growing in water. In fact it is rather the medium in which Fungi and Algae are developed, that distinguishes them, than any peculiarity in their own organization. Fungi are almost universally found growing upon decayed animal or vegetable substances, and scarcely ever upon living bodies of either kingdom: in which respect they differ from Lichens, which very commonly grow upon the living bark of trees, &c. In their simplest form they are little articulated filaments, composed of simple cellules, placed end to end. In a higher state of composition, Fungi are masses of cellular tissue of a determinate figure, the whole centre of which consists of sporules either lying naked among filaments, as in Puff-balls, or contained in membranous tubes or sporidia, like the thecae of Lichens, as in Sphærias. In their most complete state they consist of two surfaces, one of which is even and imperforate, like the cortical layer in Lichens: the other separated into plates or cells, and are called the hymenium, in which the sporules are deposited. Some writers have entertained doubts of their being more than mere fortuitous developements of vegetable matter, called into action by special conditions of light, heat, earth and air. They certainly grow with a degree of rapidity unknown in other plants, acquiring the volume of many inches in the space of a night, and are frequently meteoric: that is they spring up after storms, or only in particular states of the atmosphere. The Fungi by which most extra-tropical countries are inhabited are so numerous, that no one can safely form even a conjuncture as to the number that actually exists. Of tropical species we know but little, on account of their fugitive nature and the difficulty of preserving them. *Tonic and nutrientic, if dry or dryish; poisonous if deliquescent.* See genera, p. 104.

ALGAE.

This order is constituted of sea-weeds, and a scum-like substance, vulgarly called frog-spittle, or green hair. They are mostly cylindrical, capillary, or membranaceous. Their substance is mostly gelatinous. Color, mostly green, sometimes purple or olive. Little is known of their productive organs. They seem to be intermediate between Fungi and Lichenes. Often they seem to approach animals of the class Polypi. In truth, some sea-weeds resemble some species of Gorgonia and Spongia so nearly, that it is difficult to distinguish them without testing by the odor after burning. We might say, that ALGAE are semi-organic substances, waiting for the application of a specific living principle, of sufficient energy to bring them into organic forms. *Detergent, vermifuge and solvent.* See genera, p. 100.

LICHENES.

Aerial, leafless, flowerless, perennial plants, with a distinct thallus, and external disk containing sporules. Often spreading over the surface of the earth, on rocks or trees in dry places, in the form of a lobed and foliaceous, or hard and crustaceous, or leprous substance, called a thallus. According to Fries, Lichens are types of Algae, born in the air, interrupted in their development by the deficiency of water, and stimulated into forming a nucleons (or receptacle of sporules) by light. No Lichen is ever submerged; there are none of which the vegetation is not interrupted by the variable hygrometrical state of the atmosphere: and finally, none that ever develope in mines, caverns, or places deprived of light. On this account, their shields are more rare in the fissures of mountains, or in shady groves, than in places fully exposed to light. In wet places, also, their shields are not produced; for, so long as they are under the influence of water, they are scarcely distinguishable from Algae. Lichens consist of a medullary and vertical layer of tissue, of which the former is imperfectly cellular or filamentous, and bursts through the latter in the form of shields, which contain a nucleus, consisting of a flocculose-gelatinous substance, among which lie the cases. In the beginning Lichens are stated to be in all cases developed in humidity; and to be, in fact, at that time, mere Confervae; but as soon as the humidity diminishes, the under part dies, and an inert, leprous crust is formed, which ultimately becomes the basis of the plant. *Some used in dying; all tonic, more or less.* See genera, p. 102.

HEPATICAE.

Reproductive organs of two kinds. 1. Capsule (theca) *without a lid;* in which they differ from proper mosses. 2. Minute roundish, or oblong bodies, variously situated. Plants frondose; not submersed.

This order is distinguished from Algae by the capsule and leafy frond, which is never submersed. The genera of this order are considerably different. The herbage consists of variously expanded fronds, lying flat on what its grows upon. The substance is generally loosely cellular; rarely compact.

The most remarkable point of structure in this order, is the spiral filament, as it is called lying among the sporules within the theca. This consists of a single fibre, or two, twisted spirally in different directions, so as to cross each other, and contained within a very delicate transparent, perishable tube. They have a strong elastic form and have been supposed to be destined to aid in the dispersion of sporules. *Slightly stimulant.* See genera, p. 99.

MUSCI.

Mosses are distinguished from all other relative plants, by the peculiar nature of the reproductive organs, which are of two kinds. The principal and the most obvious is a *theca*, which is furnished with an operculum or lid, by means of which the sporules are retained in the theca, and a columella, or central axis, to which they are attached. The other consists of minute sperical, pedicellated organs, concealed in the axils of some of the leaves, and called anthers by Hedwig. The theca is either entire, or split into four parts; when in a very young state, it is inclosed in an indusium, which is torn asunder as the theca is elongated, and being carried up with it, remains upon the summit of the theca in the form of a little extinguisher, called calyptre: if the calyptre is slit up one side, it is called cucullate: if divided at the base into many short clefts, it is termed mitre-form. The orifice of the theca, when the operculum is removed, is either covered by a simple membrane, or by various processes called the peristome, either annular or in the form of teeth, and arranged in a single or double row. These processes vary in number, and in the manner of their division; from such differences excellent characters for the genera have been obtained. Their number is always four, or some multiple of four; as 4, 8, 16, 32, 64. *Axillary bodies;* cylindrical or fusiform stalked sacs, containing a multitude of spherical or oval particles, which are emitted upon the application of water. These have been called *anthers* by some. *Astringent.* See genera, p. 97.

FILICES.

Ferns and fern-like plants. They are flowerless plants, with a stem having a vascular system and distinct leaves. Their seeds are contained in capsules, (theca.) These are dorsal or axillary to the frond. This Natural Order of Jussieu, may be properly divided into the following sub-orders.

A. *Equisetaceae.* Plants with seeds (sporules) surrounded by elastic, clavate filaments, and inclosed in capsules (theca) arising from the scales of terminal cones. Vernation straight. *Astringents, diuretics, diaphoretics.*

B. *Filices.* Plants with seeds inclosed in capsules, arising from the back or margin of the leaves, or naked upon the back of leaves, transformed into sub-spikes or panicles. *Pectorals;* also *deobstruents, febrifuges,* and *sudorifics.*

C. *Lycopodiacea.* Plants with seeds (sporules) inclosed in axillary capsules, (thecae.) Used in dying wool. *Stimulants.*

The Lycopodeae approach the Coniferae (pines and cedars) by way of the Cycadeae.

D. *Marsileaceae.* Plants with their seeds inclosed in capsules which are embraced within close involucres. Creeping or floating. *Stimulants causing nausea.* See genera, p. 91.

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EATON'S

BOTANICAL DICTIONARY,

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MODERNIZED FOR 1840, TO ACCOMPANY GATES' EIGHTH EDITION OF

NORTH AMERICAN BOTANY.

LATIN words are printed in *italics*. When a word is the same in Latin and English, excepting a terminal letter or two, it is generally omitted in one of the languages.

A.

ABBRE'VIATED pe'rianth. Shorter than most perianths, in proportion to its breadth.

ABBREVIA'TION. Although any botanist may employ such abbreviations as best suits his purpose, by explaining their import, yet, the following are in such general use, that it is convenient to know them.

Rad. root.
Fol. leaf.
Stip. stipule.
Flo. flower.
Cal. calyx.
Cor. corol.
Pet. petal.
Stam. stamen.
Fil. filament.
Anth. anther.
Pist. pistil.
Stig. stigma.

Fr. fruit.
Ph. leafet of calyx, or leaf.
Per. Pericarp.
Mas. staminate flower.
Fem. pistillate flower.
Neu. neutral flower.
Her. perfect flower.
⊙. annual.
♂. biennial.
♃. perennial.
♄. woody.

Abbrevia'tus. See abbreviated.

ABDOM'INAL. Belonging to, or situated on, the abdomen; as fins, rings, &c.

ABNOR'MAL, (abnormis.) Some departure from the ordinary structure of the family or genus. Not according with first principles.

Abor'tiens See abortive.

ABOR'TIVE flower. Not arriving to perfection; the proof of which is the want of perfect seed. One or more organs suppressed and absorbed by others. See seed.

ABRUPT' leaf. A pinnate leaf which has not an odd, or terminal leafet.

——— *root.* Appearing as it bitten off; as bird-foot violet.

Abrup'te. Abruptly.

Acalyc'inus. Without a calyx.

Acau'lis. Stemless.

ACCESSORY. Additional; annexed and of a different kind; often applied to the border of the receptacle of a lichen.

Accre'tus, (acrete.) Fastened to another body, and growing with it.

ACERO'SE leaf. Needle-form. Generally inserted on the sides of branches, as in the pines.

Acero'sus. Acerose.

Acetabul'eus, (acetabuliformis.) Concave, depressed, round, with the border a little turned inwards; resembling the cavity of the hip-joint.

ACHENE.* AKINE. One-celled, superior carpel, having a dry, indehiscent pericarp, without a suture. It is the pericarp, of the scabrous plants; also of the rose, sunflower, &c.

Achlamydeous. Plants have frequently no floral envelopes; in that case flowers are said to be naked or achlamydeous.

Avicula'ris. Form of a small needle.

ACINAC'IFORM leaf. Sabre-form. One edge sharp and convex, the other thicker and straight, or concave. Cutlass-form.

Acinacifor'mis. Acinaciform.

AC'INE. One of the little globules constituting a compound berry as of the raspberry.

Ac'inus. Acine.

ACOTYLED'ONOUS plants. Having no cotyledons, or seed-lobes: and consequently producing no seminal leaves. See Cotyledon and See-leaves.

Acu'leus, (aculeatus.) Prickle.

ACU'MINATE. When the leaf, calyx &c. terminate suddenly in a point, generally more or less curved towards one edge of the leaf.

Acumina'tus. Awl-pointed, acuminate.

Acutangula'ris. Sharp-cornered.

ACUTE. Any part of a plant ending without a curved or rounded termination. An obtuse angle or any other angle in mathematics, is acute in botanical language.

Acu'te. Acutely. An *acute-dentatus*, sharply toothed.

Acutiuscu'lus. Acutish. That is, the apex, corner, &c. is hardly rounded so as to be called obtuse, and is rather too nearly round to be denominated acute.

ADELPHOUS. Applied to plants whose stamens are united by their filaments, whether in one, two, or more sets.

ADNA'TE. Adhering. Any two or more parts of a plant being attached to each other, in cases where analagous parts are separate in other plants.

Adna'tus. Growing together. Adnate.

ACICULATED, *(aciculatus.)* Marked with very fine irregular streaks, as if produced by the point of a needle.

Adpres'sus. Appressed.

Adscen'dens. Ascending.

ADVERSE leaf. Presenting its under surface to the sun. One edge presented towards the stem.

Æquival'vis. Valves equal among themselves.

Ærugino'sus. Light bluish green: verdigris-color.

ÆSTIVA'TION. The manner in which petals lie in the flower-bud, and leaves in the leaf-bud, before they open. 1. *Convolute*, petals or leaves rolled all one way, like a roll of paper or cloth. 2. *Imbricate*, petals or leaves lying over each other so as to break joints, like shingles on a roof. 3. *Conduplicate*, each petal or leaf having its edges rolled in, till the two opposite rolls meet on the midrib. 4. *Valvate*, when, just before they open, they stand like the husks of an ear of Indian corn. 5. *Unequal-valved*, when the petals differ in size.

While in the state of estivation, the leaves undergo important changes. Sometimes the axis of the bud is elongated into a branch, separating the leaves along the branch to great distances. Sometimes the axis extends but the tenth or twentieth of an inch, and the leaves adhere, contract and expand variously: producing calyxes, corols, stamens and pistils. The central leaf, or a central whorl of leaves, have their folded edges grow together, forming carpels enclosing ovules; while the midrib becomes a style, and its tip the stigma.

Affi'nis. Having relation, or affinity, to something supposed to be previously known.

Aga'mia. (*a*, without, *gomia*, matrimony,) Necker's name for the class *cryptogamia.*

A'GES of plants. Some plants spring up, flower, ripen, seed, and die, in a few hours, or a day, which are called *ephemeral.* Others live a few months or a summer, which are called *annual.* Others spring up in one summer and ripen and die the next, which are called *biennial.* Others live an indefinite period, either with the whole stem and branches, or only by the root, which are called *perennial.*

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* *Achin*, Gr. poor, lean.

The ages of trees may be known by counting the concentric rings or grains.

AG'GREGATE. Many springing from the same point, or from the same receptacle. Sometimes this term is rather loosely applied to heaps or bundles.

Aggregate flowers are those where several stand on the same receptacle without united anthers. Applied to minerals, it signifies that several simple minerals are united in a mass by adhesion, or by a cement.

AI'GRETTE. EGRET. The flying, feathery or hairy crown of seeds: as the down of thistles and dandelions.

—— *stiped* (stipulatus) when it is supported on a foot-stem.

—— *simple* (simplex) when it consists of a bundle of simple hairs, without branches.

—— *plumose* (plumosus) when each hair has other little hairs arranged along its sides, like the beards on a feather.

—— *membranous*, thin transparent leaves.

Martyn recommends this term under the word *pappus*.

AI'GRETTED. Bearing egret.

AIR-CELLS, besides the common intercellular passages, and the receptacles, there are very remarkable cavities among the tissue of plants containing air only, and not the proper juice of the plant. Air-cells are very variable in size, figure and arrangement. The structure of the air-cells and their coats form one of the most beautiful of microscopical objects.

AKENIUM, is an indehiscent, bony, one-seeded pericarp, which does not contract any degree of adhesion with the integument of the seed, as strawberry, sunflower.

Ala, wing; *alatus*, winged.

Al'bicans. Whitish, growing white.

ALBUMEN. The farinaceous, fleshy, or horny substance (which constitutes the chief bulk of some monocotyledonous seeds;) between the integuments and the embryo.

It is well exhibited in the cocoa nut; also in culmiferous plants, as Indian corn, wheat, rye, oats. Buckwheat flour is more perfect albumen than the Indian meal. It is not found in peas and beans: their chief mass is of the cotyledons. Cruciform plants, as mustard seed, turnip seed, &c., contain none.

Albur'num. The living and incompletely formed external layers are called the alburnum. See Aubier. Sap-wood.

AL'GAE. Linneus comprised the plants of the orders Hepaticae and Lichenes under this order.

ALIENATED. When the first organs, as the stamens, leaves, &c. give place to others different from the natural habit of the plant.

ALLIACEOUS. Emitting the odour of garlick.

ALLUVION. Detritus, which is formed by the process of washing from the place of disintegration.

AL'PINE. Growing most naturally on high mountains.

ALTERNATE. Branches, leaves, flowers, &c. are alternate, when arranged upon opposite sides of the stem, or whatever supports them: beginning at different distances from its base, and continuing in nearly equal series. Sometimes they are in three series.

ALTER'NATING. When one organ is arranged alternately respecting another; as the stamens in the first ten classes: mostly alternate with the petals, or divisions of petals.

Alter'ne pinnata. Alternately pinnate.

ALVE'OLATE receptacle (*alveolatus.*) Having cells so as to resemble a honeycomb, with more or less of each seed imbedded in it.

ALUTACEOUS. Tan color. The color of sole leather.

AMBITUS. Periphery. The outer rim of a frond, receptacle, &c.

A'MENT. An assemblage of small flower-bearing scales, which serve as lateral calyces. These are arranged along a kind of rachis, and each encloses either the stamens or pistils of flowers. The pine, willow, oak, chesnut, walnut and nettles are good examples. See strobile.

Amenta'ceus. Growing in aments, amentaceous.

AMPHIBIOLOGY. The department of Zoology, embracing animals which are capable of suspending respiration for a long time without injuring the action of the arterial system; and of living in air also in a healthy state. As frog, snake, tortoise, lizard.

Amplexicau'lis. See clasping. Embracing the stem.

Amplius. Enlarged, abundant.

Ampul'lus. See utriculus. Bladder.

ANAL. Situated near the vent, or between it and the tail.

ANALLUVION. Applied to detritus which has not received its present character from being washed.

ANAL'OGY. In natural science, it is frequently necessary to reason from analogy.

ANAL'YSIS. To analyse a plant *botanically*, is to search out the name by the number, form, position, &c. of its organs, as they exist in a natural state.

ANASTOMOSIS. A meeting of mouths. When veins, tubes, &c. join in one, at, or towards, their extremities.

ANCIP'ITAL. *Anceps.* Two edged. Having two opposite edges or angles.

ANDROG'YNOUS plants. Bearing staminate and pistillate flowers on the same root without any perfect ones: as the Indian corn.

—— *spike*, has both staminate and pistillate flowers distinct on different parts of it.

—— *flower*, has stamens or pistils only, and is on the same plant with other flowers having different organs from itself.

ANFRAC'TUOUS. Winding by angular turnings.

Angiocarpus. Fungi bearing seeds internally.

AN'GULAR. By means of intervening grooves, the stems, calyces, capsules, &c. often have ridges running lengthwise, which give them this appellation: also having several salient angles on the margin; as the leaf of the Datura Stramonium.

Angula'tus. See angular.

Angustifol'ius. Narrow-leaved.

ANNOTINE. Of one year.

ANNUAL. Which springs up, perfects fruit, and dies in the same year. The herbage is often annual, with a perennial root. But the root is always intended, unless the other parts are particularly mentioned.

Annulatus. Having a ring around the capsules in ferns; or a fungus with a ringed stipe.

An'nulus. See ring.

Annuus. See annual.

ANOM'ALOUS. (*a* without, *nomous* law.) Whatever forms an exception to the assumed rules or systems. In the attempts of old botanists at natural arrangement many plants were necessarily thrown into anomalous groups.

ANTENNÆ. The horns or jointed processes on the heads of insects.

ANTHER. As the limb of a petal is analogous to the lamina of a leaf, and the unguis is analagous to the petiole of the cleft; it follows that the anther is a modification of the lamina, and the filament of the petiole. Similar metamorphoses and interchanges among organs, are easily demonstrated by attentive observation. Especiallly leaves, branches, and flowers.

ANTHERID'IUN. Used by Nuttall for a mass of pollen.

ANTHERIF'EROUS. *Antherif'era.* Flowers bearing sessile anthers; that is anthers without filaments.

ANTHEROID. Having the appearance of an anther.

Anthocarpous. *Anthors*, flower, *carpos*, fruit. When the ament of flowery scales, or its open carpels become condensed into fruit: as the indurated and compacted strobile of pine, cypress, or yew. The pine-apple, mulberry and fig also; but they are the variety, *sorosis.*

Antho'dium. See perianth calyx.

Aper'tio. See blooming.

AP'ERTURE. In conchology it is used for the mouth of a shell, or entrance to the animal's residence. It is of various forms, as angular, rounded, moon-form, linear, &c.

APET'ALOUS. A flower without a corol. See stamineus.

AP'EX. The tip or end. Summit of the spire of a shell.

APHYL'LOUS. Leafless.

Apicula'tum. Covered with fleshy, erect, short points.

Apoph'ysis. A process from the base of the theca of mosses.

Apothe'cium. The receptacle of lichens, being the part wherein the seeds are formed and ripened. The saucer-form cups on those greenish leathery scabs on fences and stones, are examples. They are propagted by sporules, included within little membranous cases, which lie within a denuded portion of their own central substance, called the scutellum, apothecium, or shield. See Border of Lichens.

APPEN'DAGE. As thorns, tendril.

APPENDIC'ULATE. Appendicule. Appendaged. Having something attached to a leaf, corol, &c. as a wing on a petiole, a nectary at the end of a petal, as in some species of Polygala, &c.

Appressed. Closely pressed; as leaves against the stem, &c.

Approx'imate. Growing near each other, or near to a different part.

Ap'terous. Without wings.

Aquat'ic. Growing most naturally in or near water.

Arachnoi'deus. Covered with interwoven hairs, so as to resemble a spider's web.

Araneo'sus. See arachnoideus.

Ar'bor. See tree.

Arbo'reous. Tree-like. Applied to mineral impressions.

Arbores'cent. Becoming woody when approaching maturity.

Arbus'cula. See suffrutex—somewhat woody.

Arbusti'vus. Bush-like.

Arch'ed. Curving above. See vaulted.

Ar'cuate, *Arcua'tus.* Bent like a bow. See bowed.

Arcua'tim. Archwise, curved.

Arena'rius. Growing in sand.

Areola'tus. Raised a little so as to resemble a garden-bed. Cushion-like.

Argen'teus. Silver-colored.

Argu'tus. Sharp-tapering.

Argyroc'omus. Silky and silvery white.

Ar'id, *A'ridus.* Dry and rough.

A'ril, *Aril'lus.* The outer coat of a seed, which, not contracting with it in ripening, falls off; sometimes the funiculus, or the placenta, expands about the seeds into a fleshy body, named arillus.

Aris'tate, *aris'ta* and *arista'tus.* See awn and awned. Bearded.

Arms. Spines and prickles.

Aromat'icus. Aromatic, sweet scented.

Ar'row-form. Shaped like an arrow-head. It differs from hear-form in having the hind lobes acute.

Artic'ulus. See joint.

Artic'ulated. Jointed. Articulated division of animals includes those which have jointed abdomens; as angle-worms, lobsters, spiders and wasps.

Articula'te. Jointedly.

Arundina'ceus. Resembling reeds.

Arven'sis. Growing in cultivated fields.

Ascen'ding. Rising gradually between a horizontal and vertical position.

Ascidium. when the petiole becomes dilated and hollowed out at its upper end, the lamina being articulated with and closing up its orifice; it is also called a pitcher or ascidium; as the leaf of the sarracenia (side-saddle.)

As'perate, *As'per.* Rough.

Asperifol'ius. Rough-leaved.

Assur'gent, *Assurgens.* Rising in a curve from a declined base.

Asti'ped. Pappus, or a fungus, without a stem or stipe.

Atropurpu'reus. Dark purple.

Atten'uated, *attenua'tus.* Tapering gradually till it becomes slender. Long and slender.

Aubier. Sap-wood, the last year's deposite.

Auc'tus cal'yx. Having an outer row of leafets, as the Dandelion.

Ave'nium. Veinless.

Avertebral. Animals without back bones; as insects, oysters angle-worms.

Alulet. Spurious wings. A tuft of 3 or 5 feathers on the outer fore-joint of a bird's wing.

Aurantia'cus. Orange-colored.

Aure'us. Gold-colored.

Auricles. Apendages to the heart; being small cavities above the ventricles.

Auricula'tus; or *auritus.* See eared. Ear-like processes.

Autumna'lis. Coming to maturity in autumn.

Autumna'tio. The effect of autumn on plants.

Awl'-form. Linear at, and adjoining, the base; and becoming sharp and more or less curved to one side at the point.

Awl'-pointed. Acuminate.

Awn. A short slender process, or stiff beard, from the top or back of glumes or chaff.

Processes resembling awns are called by this name, which proceed from anthers or any other parts of vegetables.

AWNED. Having awns, (aristatus); abruptly terminated in a hard, straight, subulate point; it is always a continuation of the rib, and sometimes separates from the lamina below the apex.

AWNLESS. Without awns; sometimes it means a blunt, pointless awn.

AX'E-FORM. Nearly cylindric towards the base, with one side projecting towards the end; which projection is sharp-edged.

AX'IL. The arm-pit. Applied to vegetables, it means the angle formed by the meeting of a leaf or petiole with the stem, or of a branch with the main stem.

AX'ILLARY. Any thing growing from the axils.

AXIS of fruit is often called columella; the space where two carpella unite, is named the commissure; the axis may be compared to the vertebral column of animals in many cases.

Azu'reus. See Cœruleus. Blue.

B.

Bac'ca. Pulpy, valveless berry.

Baccif'erous. Berry-bearing.

Baccil'lum. Pedicel of lichens.

BACK. The side of a univalve shell, which is opposite to the side in which the aperture is placed.

Ba'dius. Liver-brown.

BANNER. The upper petal in a papilionaceous flower.

BARB, barba. A straight process armed with teeth, pointing backwards; if forked at the apex, both divisions of the fork being hooked, it is *glochis*, or hook-beaked.

Barba'tus. See bearded.

BARK. Properly the inner strong fibrous part of the covering of vegetables. But in a more extended sense it includes also the *cuticle*, and *cellular integument*.

BARREN. Producing no ripe seed. See *staminate*, *neutral*, and *abortive*.

Bas'is. Base. The part of a stem, leaf, flower, &c., nearest to the place through which it derives its nutriment. The extreme end of a univalve shell, opposite to the apex of the spire; and the side or end opposite to the hinge of bivalve shells. The hilum represents the base of the seed; the apex is determined by the point where the vessels or tissue of the integument concentrate, called the *micropile*, (little process.) Before maturing, called foramen.

BEAK. One side of the aperture of a univalve shell, extended in the form of a beak; as murex. In a bivalve, it is the tip of the spiral part near the hinge.

BEAK'ED. Terminated by a process, formed like a bird's bill; or terminating gradually in a hard, long, straight point.

BEARD. Having tufts of long, weak hairs, growing from different parts of the surface. Parallel hairs. It is applied to the filamentous nectaries on the petals of Iris. The lower lips of ringent corols are sometimes called beard. Tendril-like appendages near the mouth of the sturgeon and some other fish.

BE'ARDLESS. Destitute of beard.

BELL'-FORM. Swelling out at the base, and without a tube. Properly applied to monopetalous corols only; but it is frequently extended to liliaceous flowers, and some others.

BELLY. It is the swollen part of the body of a univalve shell. See body.

BEL'LYING. See Ventricose. Inflated.

BERRIED, *(baccatus.)* Having a juicy, succulent texture.

BERRY. A pulpy pericarp, enclosing seeds without capsules.

Bib'ulus. Sucking water.

BICUS'PIDATE. Having two lengthened points, each terminated with a small bristle,

Bi'dens. Having two teeth.

BIEN'NIAL. Springing up one summer, flowering and dying the next; as wheat.

Bifa'rius. Facing two ways, presenting two opposite series.

BI'FEROUS. Bearing twice in a year. Common in hot climates.

BI'FID. Two cleft, split into two divisions.

Bi'fidus. Bifid.

Bi'florus. See two-flowered.

Bi'farius. Having two openings or holes; or facing two ways.

Bifurca'tus or *Bifur'cus.* Forked.

BIGEM'INATE. Twin-forked. Having a forked stem, with two leaves on each part.

BIGLAN'DULOUS. Having two glands.

BIJU'GOUS. A pinnate leaf with two pairs of leaves on each part.

Bila'biate. Corol with two lips; as in most of the class *didynamia.*

BILAM'ELLATE. Composed of two lamellæ; it applies to a flattened stigma split lengthwise.

BILO'BATE. Divided into two lobes.

BILOC'ULAR. Two-celled.

BI'NATE. Two standing up together on the top of one stalk. If they spread out horizontally, they are called *conjugate.*

Biner'vis. Two nerved.

BIPAR'TIBLE, or Bipar'tile. Naturally divisible into two parts.

Bipar'titus. Divided into two parts to the base, but still remaining in one piece, as the petals of *stellaria.*

BIPIN'NATE. Doubly pinnate.

BIPINNAT'IFID. Doubly pinnatifid.

BIROS'TRATE. Having two beaks.

Biseria'lis. In two series; 2-rowed.

BISTRI'ATE. Two slender lines running lengthwise.

BISUL'CATE. Having two furrows or grooves.

BITER'NATE. Doubly ternate.

BI'VALVE. When a capsule is composed of two pieces or valves; or when the glume-calyx of grass, &c., consists of two chaff or husks. When used in Zoology, it refers to the two parts of the shell of such moluscous animals as oysters, clams, &c.

Bivascula'ris. With two horn-form, or cup-form cells.

BLIS'TERED. See bullate.

BLOOM'ING. The precise time when all parts of the flower are completely developed.

BLOS'SOM. Colored leaves of a flower, whether calyx, corol, or both.

BLUNT. Round-obtuse.

BOAT-FORM. Hollowed one side, with a compressed longitudinal ridge on the opposite side.

BODY. It is the first whorl at the base of a univalve shell; the most swollen part of which is called the belly.

BOLE. The naked trunk of a tree.

BONY, (osseus.) Hard and very close in texture, not cut without difficulty, the parts cut off being brittle: as the stone of a peach.

BORDER in Lichenes. The edging of their receptacles (apothecium.) It is *proper*, when of the same substance and color of the receptacle. It is *accessory*, when of a different substance or color from the disk of the receptacle.

BORDER of corols, leaves, funguses, &c. The spreading brim.

——— *tenuis.* Thin border of a fungus.

——— *colerata.* Colored border.

——— *equalis.* When the stem of a fungus is in the centre.

——— *crassa.* Thick border, &c.

BOSSED. Bunched up in the centre, as in some *agarics.*

BOTAN'ICAL names of plants. Generic names are chiefly given in honor of botanists, and patrons of laborious botanists at the present day. Hence they are a correct record of the names of the friends of our chief *genera manufacturers*, and adventurous collectors. Specific names are sometimes given upon the same principle. But they are mostly latin adjectives expressive of some striking form or quality of the plant. See Lindley's Introduction, p. 454, and on; wherein he gives the Linnean rules for naming, with his own comments.

Bot'rus. A cluster, like grapes.

BOUGH. See branch.

BOUL'DER. A large fragment of a rock. This term is applied to all masses of rock, which are severed from a main rock, if the size is above that which is usually denominated a pebble.

BOW'ED. Curved over downwards.

BOWL-FORM. About half of a hollow sphere.

BRACH'IATE. Branches nearly horizontal and *decussate.*

Brach'ium. See Measures. Arms length.

BRACT. *Brac'ted.* Floral leaf. A leaf near or among flowers, which differs in shape, or color, or both, from the other leaves of the plant. The leaf from the axilla of which a flower-bud arises is called a bract, or floral leaf; and all rudimentary leaves of what size or color soever, which appear on the peduncle between the floral-leaf and the calyx, are called bracteoles; but in common language, botanists confound these two kinds, which are essentially distinct. As on the bass-wood, *(tilia.)*

Bractea'tus. Bracted, having bracts.

Bracteifor'mis. Resembling bracts.

BRANCH. A division of the main stem, or main root.

BRANCHED. Divided into branches. Applied to roots, trees, &c.

BRANCH-LEAVES. Leaves growing on branches.

BRANCH'LET. Subdivision of a branch; a twig.

BRANCH-PE'DUNCLE. A peduncle proceeding from a branch.

Brev'is. Short. Unusually short.

Brevis'simns. Very short.

BRIST'LES. Very stiff hairs. They are simple or hooked.

BRISTLE-FORM. Nearly proportioned to a bristle in breadth and length.

BRISTLE-POINTED, *(setosus, setiger.)* Terminating gradually in a very fine sharp point.

BRISTLY. Set with bristles.

BRONCHIAL. Applied to fish it means, pertaining to the gills.

Bruma'lis. See Hyemalis. Wintery.

BRUN'NEUS. Brown, dusky, dun.

BUCKLER-SHAPED, (scutatus, scutiformis.) Lens-shaped, with an elevated brim.

BUD. The winter residence of leaves and flowers. Generally wanting in hot countries. They are defended by imbricate scales and mostly by a clammy glutinous substance also. They are—1. *Leaf-bearing.* Which are more slender and sharp. 2. *Flower-bearing.* Which are thicker, not so hard nor so sharp. But late investigations prove, that both kinds are interchangable, under the influence of contingencies.

BULB. *Bulbus.* Bulbous roots. Though we call the turnip, the onion, &c. roots, they are strictly buds; or the winter residence of the future plants. Some bulbs are borne above ground, as on several species of onion, *(allium.)* Leaf-buds have been sometimes confounded with roots by old botanists; a bulb is a leaf-bud; a bulbous root is a contradiction in terms.

Bulbif'erous. Producing bulbs above ground.

Bulbo'sas. Bulbous. Growing from bulbs.

BULBOUS ROOT. Fleshy and spherical.

Bul'bulus. Small lateral buds shooting from larger ones.

BULLATE. Raised in bunches or blisters; as when the parenchymous substance of a leaf rises up between the veins.

BUN'DLE See fascicle.

BUTTERFLY-FORM. See papilionaceous.

BUTTONS, *Tricæ.* That kind of receptacle of lichens which when magnified resembles a coiled horse-hair. They are roundish, sessile, unexpanding, compact, black and solid; continued along their whole surface. Upper side they are in concentric, or coiled, plaited and twisted folds; covered every where with the same membrane; containing seeds without cells, or cases. Smith.

BYSSUS. Flax-like, silky or hair-like fibres at the hinge of some bivalve shells. It is applied to some fungi, &c.

C.

CADU'COUS. Any part of a plant is caducous, which falls off earlier, compared with other parts of the same plant, than is usual for similar parts in most plants. As the calyx of the *poppy* and *bloodroot*, fall off before the corol is hardly expanded.

Cæsius. Sky-blue, pale-blue, grey.

CAESPITOSE. Turfy. Several plants growing together, or from the same root, forming a turf.

Cal'amus. Reed-like.

Cal'car. A conic spur. See spur.

CAL'CARATE. See spurred.

CALCIFEROUS. Bearing calx. An old term for carbonate of lime. Applied to sand rocks, &c. which contain carbonate of lime.

Calic'iform. See Calyciform. Cup-like.

Calic'ulate, *Calicula'tus.* Having a small outer calyx. See auctus.

Ca'lix. See calyx. Leaf-cup.

Calyc'iform. Resembling a perianth calyx.

Ca'lycine, (Calycinus.) Appertaining to a calyx.

Ca'lycle. *Cylyculus.* The outer calyx-like part of the crown of some seeds.

Ca'lycled. See auctus. Having an outer calyx.

Calyc'ulus. See calycle.

Calyp'tra. Calyptre, or veil. The cap or hood of pistillate mosses; resembling in form and position an extinguisher set on a candle. It is the calyx closed; which after being detained at the base its form still keeps it on the capsule a while. See *Perichætium,* which is the true calyx of mosses.

Calyptra'tus. Having a calyptre.

Calyx. (*Kalux, Gr.*) The most exterior integument of the flower consisting of several verticillate leaves, either united by their margins or distinct, usually of a green color, and of a ruder and less delicate texture than the corol. If the stamens alternate with the leafets or divisions, Linneus calls it a corol; and if the stamens stand opposite to the leafets or divisions he calls it a calyx, without regarding the color or texture. This rule is to apply where but one of the organs is present.

—— *double.* When one calyx is outside of another; as in the *hollyhock,* (althea.)

—— *common.* When one calyx includes many florets, as the thistle.

—— *proper.* When a floret is included in a general calyx of its own.

There are seven kinds of calyx: 1. Perianth. 2. Involucre. 3. Spathe. 4. Glume. 5. Ament. 6. Calyptre. 7. Volva. See each.

Camb, *Cambium.* Beneath the bark and above the wood is interposed in the spring a mucous viscid layer, and appears to be exuded both by the bark and wood.

Campan'ulate, *Campanula'tus.* See bell-form.

Campes'tris. Growing in uncultivated fields.

Canal. The channel or gutter along the back of a univalve shell.

Canalicula'tus. See channelled.

Can'cellate. *Cancella'tus.* See latticed. When the parenchyma is wholly absent and the veins [illegible] remain anastomosing and forming a kind of net work.

Canescent. Becoming white or hoary.

Cap'illary, *Capilla'ris, Capilla'ceus.* Hair-form; longer than bristle-form in proportion to its thickness.

Capilli'tium, is a kind of purse or net, in which the sporules of some fungi are retained.

Capil'lus. Hair. See pilus.

Cap'itate, *Capita'tus.* Head-form: growing in heads. When a bud produces flower-buds, with little elongation of its own axis, either a head (capitulum) or an umbel is produced.

Capre'olus. See tendril.

Caprifica'tion. The fertilizing of pistillate flowers by artificially sprinkling pollen upon them. This is important in raising figs.

Cap'sule, (*capsula.*) a little chest. That kind of pericarp, which opens by valves and becomes dry when ripe; not including siliques nor legumes. When it is one-valved, it is called a **follicle** *folliculus,* which see. It consists of *valves, partitions, columella,* and *cells,* which see. Some kinds of capsules never open, and are called *samara,* achenes, carpella, &c.

Cari'nate. *Cari'na.* See keeled.

Car'neous, *Car'neus.* Flesh-colored, Nuttall uses it for fleshy.

Carno'se. *Carnosus.* Fleshy.

Carpogena'tion. (*Karpos,* fruit; *gennao,* to bring forth.) A substitute for the word *fructification.*

Carpellum, is formed by a folded leaf, the upper surface of which is turned inwards, the lower outwards, and the margin of which developes one, or a greater number, of buds, which are the ovula (becoming seeds.)

Cartilage. Flexible, fibrous, compact substance: often called gristle. Applied to animals mostly.

Cartilag'inous. Hard and somewhat flexible. It applies to a leaf, when it is bound around with a strong margin, different from the disk of the leaf.

Carun'cle. Fleshy protuberance on the heads of some birds, as turkies.

Caryophyl'leous. Pink-like, as to the corol; having five petals with long claws, all regular and set in a tubular calyx.

Caryopsis. An achene, with a thin membranous pericarp, which adheres to the tunic of the seed too closely to be separable; as Indian corn, wheat, &c,

Cataphract'ed. . Callous skin, or cartilaginous scabs.

Custra'ta. Filaments being without anthers.

Cate'nula. A thread in some mosses, serving to unite or chain together the seeds.

Cat'kin, *Catulus.* See ament.

Cau'dal. Pertaining to the tail or posterior extremity.

Cau'date, *Cau'da.* See tail.

Caudex. The main body of a tree or root.

Caules'cent, *caulescens.* Having a *caulis*, or stem, exclusive of the peduncle or scape.

Cau'line, *cau'linus.* Growing on the main stem.

Caulic'ulus. The space that intervenes between the neck and the base of the cotyledons is called the cauliculus.

Cau'lis. The main herbage-bearing stem of plants, except of the grassy kind; as trees, weeds, &c. We have no English name for this stem, unless we adopt the French, tige.

Caulocar'pous, or those whose stem endures many years as trees and shrubs.

Cell. The hollow part, or cavity of a pericarp or anther. It is more generally applied to the cavities of pericarps, where seeds are lodged. According to the numbrs of these the pericarps are called *one-celled, two-celled*, &c.

Cel'lular Integ'ument. The parenchymatous substance between the cuticle and bark. This substance is generally green.

Cel'lules, *cis'tulæ.* Little cells, or small bladders and cavities of various forms. Sometimes applied to that kind of receptacle of Lichens, which is globose, terminal, and formed of the substance of the frond; and at length bursts irregularly and exposes uncoated seeds mixed with fibre.

Cellulo'sus. Cellular. Having cavities within, which are small and irregular; and in which sometimes granules are nested.

Centra'lis. In the centre; sometimes used for near the centre.

Cephalo'dia. See knobs.

Cere. Membrane covering the base of a bird's bill.

Cerea'lis. (*Ce'res*, goddess of corn.) Any grain of which bread is made.

Cer'nuus. When the apex or top only droops or bends down. See *nutans*, and the difference in the two terms.

Cervinus. Fawn-colored. The color of the fine light hair of a deer. Very pale reddish yellow.

Chaff. Thin membranaceous covering of the seeds of grass, grain, &c., or left on the receptacles of some compound flowers, after the seeds are removed.

Chaffy. Bearing chaff, covered with small, weak, erect, membranous scales, resembling the paleae or chaff of grasses.

Chalaza. The point of union, by organic connexion, of the nucleus of a seed, with its tunics or immediate envelopes. This is truly the base of the ovule or seed, where it unites with the placenta by its funicle. The ovule is attached to the cavity of the carpel (or ovary, as it is called, if single,) at various points. When at the bottom, the ovule is said to be *erect*; when to the placenta, a little above the base, as in the apple, it is *ascending*; when to the top, as the cherry, it is *pendulous*; when to the side as the pea it is *horizontal.* Though the *chalaza* is not a definite organ, its being the point of union and base of the ovule at the placenta, it is important.

Chambers. The cells, or separate spaces in shells. They are connected by a siphunculus.

Chan'nelled. Hollowed out longitudinally with a rounded groove of considerable depth.

Chelate claws. At the end of fore legs of some insects. They resemble forceps, like lobsters' claws.

Cho'rion. A clear, limpid liquor, contained in a seed in the time of flowering. This liquor, after the pollen is received, becomes a perfect embryo of a new plant, and takes the consistence usual in perfect seeds. But without the reception of the pollen, neither any thing like the embryo, or perfect seed, is ever formed. Malpighi.

Chryso'comus. Golden locks; or a yellow bundle of thread.

Cic'atrice, *Cica'trix.* The mark or natural scar from whence the leaf has fallen.

Cil'iate, *cilia'tus.* Edged with parallel hairs or bristles, resembling eye-lashes.

Cine'reous. Of the color of wood-ashes.

Cin'gens. Surrounding, girdeling around.

Cir'cinal. Rolled in spirally, beginning with the tip, which continually occupies the centre; as ferns.

Circina'tus. Circinal. Also compassed about.

Circumci'sus. Cut round. Opening transversely, not lengthwise; as the capsule of purslane.

Cirrif'erous. Bearing tendrils.

Cirro'se, *cirro'sus.* Terminating in a tendril.

Cir'rus. (Curled bushy hair.) A tendril or climber.

Cistu'læ. See Cellules. Little hollows.

Clam'my. See viscid.

Clas'per. See tendril.

Clas'ping. The base of the leaf being more or less heart-form and sessile, so that the two hind lobes partly surround the stem.

Class, *clas'sis.* The highest division of bodies in a system. Each class is defined to be the agreement of several genera in the parts of fructification, according to the principles of nature, distinguished by art. Grand divisions sometimes precede classes.

Cla'vate, *clava'tus.* Club-form. Growing larger towards the end.

Clau'sus. Closed, shut up.

Cla'vus. See spurred rye. Ergot.

Claw, The lower narrow part of a petal, by which it is fixed on the calyx or receptacle. It can exist only in polypetalous corols.

Cleft. Split down, not exceeding half way to the base; with nearly straight edges on both sides of the fissure. The parts into which it is split are numbered in descriptions; as once split making two divisions, is called 2-cleft; two splits 3-cleft. &c.

Clefts, *lirel'læ.* That kind of receptacle of *lichens* which is open, elongated, sessile, black, very narrow or linear, with a somewhat spongy disk; the border is parallel on side, and proper. Sometimes it has an accessory border from the crust besides. The *clefts* are either simple and solitary, or aggregate, confluent and branched.

Climb'ing. Ascending by means of tendrils, as grapes: by leaf-stalks, as virgins' bower; by cauline radicles, or rootlets, as the creeping American ivy, (rhus radicans.) It differs from *twining*, which see.

Cloaca. A general vent for eggs, urine and foeces, as of birds, &c.

Clouds. They may be divided into the regular and irregular.

Club. The clavate part of a fungus, which supports the fruit or bears the seed.

Club'form. See clavate.

Clus'tered. See racemed.

Cly'peate, *Clypea'tus.* Form of buckler. See peltate.

Coad'unate. With united bases.

Coaeta'neous, *coaeta'neus.* Existing at the same time. Applied to willows and to some other plants: it implies that the flowers and leaves appear at the same time.

Co'alit, *coali'tus.* Thickened, increased, or pressed together, as the anthers of potatoe flowers.

Coarc'tate. Compact. Pressed or squeezed close together.

Coat'ed. Consisting of concentric coats, layers or skins, as the bulbous roots of onions.

Cob'webbed. See arachnoideus. Covered with loose, white, entangled, thin hairs, resembling the web of a spider.

Coccin'eus. Scarlet-colored.

Coc'cum. A grain or seed. Tricoccous, 3-seeded; pentacoccous, 5-seeded, &c.

Coch'leate, *cochlea'tus.* Coiled spirally, like a snail-shell.

Coeruleo-purpu'reus Bluish purple, violet-color.

Coeru'leus. Blue.

Cohæ'rens. Cohering, attached; the fastening together of homogenous parts.

Coil'ed. Twisted like a rope, or rather resembling the form of one thread of a rope, after the other threads are removed.

Colli'nus. Growing on hills.

Color. There are eight principal colors, under which all the others may be arranged, viz: *white*, *grey*, *black*, *brown*, *yellow*, *green*, *blue*, and *red*. (In optics, red, orange yellow, green, blue, indigo, violet.)

1. WHITE.

Snow-white, (niveus.) As the purest white.
Pure-white, (candidus.) Very pure, but not so clear as the last.
Ivory-white, (cream-color, eburneus.) White verging to yellow, with a little lustre.
Milk-white, (lacteus.) Dull white, verging to blue.
Chalk-white, (cretaceous, calcareous, gypseous.) Very dull white, grey.
Silvery, (argenteus.) A little changing to bluish grey.
Whitish, (albidus.) Any kind of white a little soiled.
Turning white, (albescens.)
Whitened, (dealbatus.)

2. GREY.

Ash-grey, (cinereus.) Color of clean, cold ashes.
Pearl grey, (griseus.) Pure grey, a little verging to blue.
Slate-grey, (schistaceus.) Grey bordering on blue.
Lead-colored, (plumbens.) The same, with a little metalic lustre.
Smoky, (fumeus, fumosus.) Grey changing to brown.
Mouse-colored, (murinus.) Grey with a touch of red.
Hoary, (canus, or incanus.) A greyish whiteness, caused by hairs overlying a green surface.
Rather hoary, (canescens.) A variety of the last.

3. BLACK.

Pure-black, (ater, mela or melano.) Is black without the mixture of any other color.
Atratus and *nigritus*. When a portion only is black.
Black, (niger.) A little tinged with grey. A variety is nigrescens.
Coal-black, (anthracinus.) A little verging upon blue.
Raven-black, (coracinus, pullus.) Black with a strong lustre.
Pitch-black, (piceus.) Black changing to brown.

4. BROWN.

Chesnut-brown, (badius.) A little tinged with red.
Brown, (fuscous.) Brown tinged with grey.
Deep-brown, (brunneus.) A pure dull-brown. Umber-brown (umbrinus) is nearly the same.
Bright-brown, (spadiceus.) Clear brown.
Rusty, (ferrugineus.) Light brown with a little mixture of red.
Cinnamon, (cinnamomeus.) Bright brown mixed with yellow and red.
Red-brown, (porphyreus.) Brown mixed with red.
Rufous, (rufus, rufescens.) Reddish brown.
Liver-colored, (hepaticus.) Hematitic, or dark blood-color.
Fuligineus, (or fuliginosus.) Dirty brown.
Lurid, (luridus.) Black-and-blue, like a bruised eye: grey shaded with pale blue. Deathly.

5. YELLOW.

Lemon-colored, (citreus, or citrinus.) The purest yellow.
Golden-yellow, (aureus, auratus.) Pure yellow and bright.
Yellow, (luteus.) As gamboge.
Pale-yellow, (flavus, luteolus, lutescens, flavidus, flavescens.)
Sulphur-colored, (sulpureus.) A pale, lively yellow.
Straw-colored, (stramineus.) Dull yellow mixed with white.
Leather-yellow, (alutaceus.) Whitish yellow.
Ochre-yellow, (ochraceus.) Yellow changing to brown.
Ochroleucus,. Yellowish white.
Waxy-yellow, (cerinus.) Yellow with waxy brown.
Egg-yolk, (vitellinus.) Dull yellow, just turning to red.
Apricot-color, (armeniacus.) Yellow and redish.

***Orange-color*, (aurantiacus, aurantius.)**
Saffron-colored, (crocens.) Orange with a touch of brown.
***Helcolus*, Greyish yellow with a little brown.**
Isabella-yellow, (gilvus.) Dull yellow with a mixture of grey and red.
Testaceous, (testaceus.) Brownish yellow, like unglazed earthen ware.
Tawny, (fulvus.) Dull yellow with a mixture of grey and brown.
***Cervinus*, Tawny, a little darkened.**
***Livid*, (lividus.) Bluish yellow.**

6. GREEN.

Grass-green, (smaragdinus, prasinus.) Clear lively green, without any mixture.
Green, (viridis.) Green, not bright, (viridescens,) shades of green.
Verdigris-green, (aeruginosus.) Deep green with a mixture of blue.
Sea-green, (glaucus, thalassicus, glaucescens.) Dull green passing into greyish blue.
Deep-green, (atrovirens.) Green a little verging upon black.
Yellowish-green, (flavovirens.) Much stained with yellow.
***Olive-green*, (olivaceus.) A mixture of green and brown.**

7. BLUE.

***Prussian-blue*, (cyaneus.) A clear bright blue.**
***Indigo*, (indigoticus.) The deepest blue.**
***Blue*, (coeruleus.) Lightish blue.**
***Sky-blue*, (azureus.) A light, pure, lively blue.**
***Lavender-color*, (caesius.) Pale blue tinged grey.**
Violet, (violesceus, ianthinus.) Pure blue stained with red.
***Lilac*, (lilacinus.) Pale dull violet.**

8. RED.

Carmine, (kermesinus, puniceus.) The purest red without any admixture.
Red, (ruber.) In Greek composition (erythro) the common term for any pure red.
***Rosy*, (roseus.) Pale pure red.**
Flesh-colored, (carneus, incarnatus.) Pale, with a slight mixture of red.
Purple, (purpureus.) Dull red with a slight dash of blue.
Sanguine, (sanguineus.) Dull red passing into brownish blue.
Phaeniceous, (phæniceus, puniceus.) Pure lively red with a mixture of carmine and scarlet.
Scarlet, (coccineus.) Pure carmine slightly tinged with yellow.
Flame-colored, (flammeus, igneus.) Very lively scarlet: fiery red.
Bright-red, (rutilans, rutilus.) Reddish with a metalic lustre.
Cinnabar, (cinnabarinus.) Scarlet with a slight mixture of orange.
Vermillion, (miniatus, vermiculatus.) Scarlet with a decided mixture of yellow.
***Brick-color*, (lateritious.) Dull red mixed with grey.**
Brown-red, (rubiginosus, haematiticus.) Dull red with a slight mixture of brown.
Xerampelinus, Dull red with a strong mixture of brown.
Coppery, (cupreus.) Brownish red with a metalic lustre.
***Githagineus*. Greenish red.**

Col'ored. Of any hue except green; but in the language of botanists green parts are not colored.

Coloratus. Colored. Any color but green.

Columel'la. A colum of placenta, made by the meeting of several carpels in a syncocarp germ, to which seeds (ovules) are attached within the fruit. See Fig. 8, p. 12 and 13. Applied to shells, it means the pillar formed by the spire, commencing with the left lip.

Column. Applied to a thick strong style.

Columnar. In the form of a column, as the position of the united stamens in the hollyhock. The stamens of flax-flowers and of wood-sorrel flowers take a columnar form, though they do not adhere.

Columnif'era. Stamens and pistils disposed in the form of a column.

Com'a. (*Kom'e*, a head of hair.) A tuft of bracts on the top of a spike of flowers.

Comb-toothed, *(pectinatus.)* Same as pinnatifid, but the segments very numerous, close and narrow, like the teeth of a comb.

Commis'sure. The place where one thing or part is joined to another. It is applied to sides or edges of two cremocarp achenes growing on umbelliferous plants, where they are joined together, as those of the carrot and fenel. See p. 13, fig. 3, 4.

Com'mon, *communis.* Any part is common, which serves to include or sustain several parts, similar among themselves.

——, *perianth.* Including several florets; as in the thistle.

—— *involucre.* Surrounding the base of the peduncles, in an umbel, which are subdivided above.

This term is often used for *frequent* also.

Como'se. Having a coma, or lock of hair.

Compac't. See coarctus. Solid.

Comple'te, *completus.* Having both calyx and corol. When the calyx is wanting, the flower is *naked*, if it has a corol.

Com'plicate, *complicatus.* Folded together.

Com'pound, *compositus.* One whole, formed of many similar parts.

—— *flowers.* Those comprised in the class *syngenesia*, with several florets on one receptacle, each with united anthers.

—— *leaf.* When several leafets grow on one petiole.

—— *raceme.* When several racemes grow along the sides of a peduncle.

—— *spike.* When several spikelets grow along the side of a fruit-stalk or general spike.

—— *umbel.* Having the peduncles subdivided into peduncles of lesser umbels, &c.

—— *petiole.* A divided leaf-stalk.

—— *peduncle.* A divided flower-stalk.

Com'pound terms. When any part of a plant is to be described, which does not agree with the definition of any term in use, two or more terms must be compounded, so as to convey to the mind correct description. . For example, the chesnut leaf has notches on the margin pointing towards the apex, which answers to the description of serrate leaves; excepting that the notches are hollowed out. But these hollowed notches are not deep enough for sinuses: therefore the two terms are compound, making *sinuate-serrate.* Compound terms are always united by a hyphen.

Compres'sed, *compres'sus.* Flattened as if squeezed or pressed.

Con'cave, *con'cavus.* Hollowed a little on one side. It is sometimes applied to deeper hollows: though rarely.

Concepta'culum. See follicle, single-valved capsule.

Conchology. The science of shells. It is divided into the Univalve, Bivalve, and Multivalve: which see: also see the terms, apex, base, front, back, sides, body, whorl, spire, aperture, lip, back, operculum, chambers, siphunculus, slope, lunule, hinge, ligament, cicatrix, &c.

Con'color. The same color in all parts.

Condu'plicate. That kind of foliation where the leaf, while in the bud, has its two sides shut together, like two leaves in a book.

Cone, *co'nus.* See strobile. Scaly fruit of pine, cedar, &c.

Confer't, *confer'tus.* Thick-set; leaves, flowers, &c. standing so closely together, as to seem to crowd each other.

Con'fluent. Running together. It is applied more particularly to the receptacles of some lichens, which run together in disorder, and become indistinct.

Conge'neres. Plants of very similar habits, &c.

Congès'tus. Heaped but not compressed densely.

Conglom'erate. See glomerate. When used in geology, it is applied to aggregates of rounded pebbles.

Con'ic. With a broad base and approaching a point towards the apex: as the root of carrot.

Conif'era. Bearing cones, as pines.

Con'jugate. Se binate. In pairs, as if yoked together.

Conna'te. Leaves being opposite with their bases growing together, so as to form the appearance of a single leaf. Anthers are sometimes connate also.

Conni'vent, *conni'vens.* See converging. Bending inward.

Consim'ilis. Resembling in the particular case referred to.

Contin'uous. Uninterrupted. Continuing through the whole extent.

Contor'ted, *contor'tus.* Twisted. It is also applied to corols, which have the edge of one petal lying obliquely over the next.

Contrac'tus. Close, narrow, contracted unusually.

Conver'ging. Approaching, or bending towards each other.

Con'vex. Swelling out in a roundish form, generally one side.

Con'volute, *convoluta'tus.* Rolled into a cylindric form, like a roll of paper, lengthwise with the midrib. Applied to the situation of leaves in the bud.

Coniocysta, (tubercle-like) closed apothecia, containing a mass of sporules.

Cor'cle, *cor'culum.* (*Cor*, the heart.) The embryo of the new plant in a seed, situated between the cotyledons in dicotyledonous seeds. It consists of the *plume* and *radicle* or *rostel*, which show themselves soon after vegetation commences. See plume and rostel.

Cor'date. Heart-form: so called from its supposed resemblance to the heart. It is hollowed behind with the side-lobes rounded at the base. See arrow-form.

Cor'date-oblong, cor'date-lanceolate, &c. partake of the formation of both compounds.

Cormus. If it distend under ground, without creeping or rooting, (excepting fibres,) but always retaining a round or oval figure, it is called a cormus.

Coria'ceous. Leathery or parchment-like.

Corky (suberosus.) Having the texture of the substance called cork.

Cor'nered. Having angles or corners. Three-cornered, four-cornered, &c., is often expressed trigonus, &c.

Cor'nu. A horn or spur. Long hard process.

Cor'nute, *Cornu'tus.* Horn-form; or having horns or spurs.

Corol, *corol'la.* (A diminutive of *corona*, a crown.) The inner delicate covering of the flower, which constitutes its principal ornament in most cases. In a few cases, as the Euchroma *coccinea*, the corol is dull and unsightly, while the calyx is gaily colored. See petal and nectary.

Corollif'erous. Bearing the corol.

Corol'linus. Resembling, or appertaining to a corol.

Corona'rius, coro'na, crown. Forming a crown.

Corona'tus. Crowned; as the thistle seed is crowned with down.

Coro'nula. A little crown.

Cor'rugated, *corruga'tus.* Wrinkled. Applied also to ridges, in some measure resembling wrinkles.

Cor'tex. The bark, which see. It consists of a number of layers equal to the number of years the tree has been growing; though they are often too thin to be numbered. The inmost layer is called the *liber*.

Cor'tical, Cor'ticate. Having its origin from the bark, or having bark. (*Corticatus.*) harder externally than internally.

Cortina. Spiderweb-like vessel, being very thin and filamentous. Also a name given to a portion of the veil, which adheres to the margin of a pileus in fragments. A cauldron.

Coryda'lis (*Korys*, a helmet.) Plants with helmet-form corols.

Co'rymb, *corym'bus.* Flowers umbel-like in their general external appearance, but their peduncles or supporting stems stand at different distances down the main stem; as yarrow.

Corymbif'era. Bearing corymbs.

Cos'tate, *costa'tum.* Ribbed.

Cot'tony. See tomentose.

Cotyle'dons are generally thick and fleshy lobes of seeds; as the two lobes of a pea. But they are often only a small part of a seed: as the small single cotyledon of a kernel of Indian corn, attached to one side of a large mass of Albumen near the hilum (or eye.) The cotyledons belong to the embryo of the new plant; but the albumen is a dense mass, such as becomes flour or meal by grinding wheat, corn, &c. Peas, beans, &c cannot be ground into flour, as they contain no albumen.

Cotyl'iform (*cotyliformis;*) resembling rotate; but with an erect limb.

Cow'led. When the edges meet below and expand above, and generally separate; as the spathe of the *arum*, Indian turnip.

Cras'sus. Thick. Inordinately thick.

Cree'ping. Running along the ground, or along old logs, &c. nearly in a horizontal direction, and sending off rootlets.

Cremocarp. Double achenes or two side by side; as in umbelliferous plants. Sometimes the achenes are triple or quadruple; as cynoglossum and borage.

Cre'nate. Scolloped on the rim or edge. Notches on the margin of a leaf, which do not point or incline towards either the apex or base. When large crenatures have smaller ones on them, they are doubly-crenate.

Cre'nulate. Very finely crenated.

Cres'cent-form. Resembling the form of the moon from its change to half-fulled.

Crest'ed. Having an appendage somewhat resembling a cock's comb in form, being an elevated, irregular, or notched ridge, resembling the crest of a helm.

Cre'ta. Growing on chalky land.

Cribrose. Sieve-like. Numerous perforations.

Crinitus. Long-haired. Bearing hairs in locks.

Cris'pus. See curled.

Cris'tate, *crista'tus.* See crested.

Cross'armed. See brachiate.

Crown. The calycle, hair, or feathers, on the top of some seeds; as the dandelion.

Crowning (coronans;) situated on the top, like a crown.

Cru'ciate. Cruciform, or resembling the cruciform.

Crucia'tim. Crosswise. Opposite pairs of branches or leaves successively crossing each other. See decussate.

Cru'ciform. (*Crux*, a cross.) Corols with four petals, whose lamina form a cross. Plants with such corols belong to the class *tetradynamia.*

Crusta'ceous. Leafy appearance, but consisting of small crusty substances lying one upon another. Applies to a brittle crustaceous thallus.

CRYPTOGAMIA. (*Kruptos*, concealed; *gamos*, marriage.) The process of fertilizing flowers by the application of pollen to stigmas, invisible or not performed.

Cryptog'amous. (*Kruptos*, concealed, *gamos*, marriage.) Belonging to the class cryp'toga'mia. Appplied to plants whose stamens are never manifest under the highest magnifying power.

Cu'bit. 17 inches. A measure from the elbow to the end of the middle finger.

Cucul'late. See cowled. Hood-form, as the spathe of the Indian turnip.

Cucurbita'ceous. Resembling gourds or melons.

Culinary. Suitable for kitchen cookery.

Culm, *cul'mus.* The stem of grain and grass, when dry it is usually called straw. It is applied to all grassy plants; as Indian corn, sedge, sugar-cane, &c.

Culmif'erous. Having culms, as wheat, Indian corn.

Culmin'eous. Like the roof of a house. Top.

Cultrate. Coulter-form. The beak of a bird resembling a plough-coulter.

Cum'ulus. Heaped. Accumulate.

Cunei'form, *cuneiforme.* See wedge-form, wedge. The form of the vertical segment of a wedge, cut at right angles with its planes, when standing on its head.

Cup'form. Hollow within, resembling a little cup.

Cupu'la. Cup. The pileus of a fungus, which is open at the top: as those of the genus Peziza.

Cupula'ris. Cup-form; slightly concave with a nearly entire margin, as the cup of an acorn.

Curl'ed. When the periphery of a leaf is too large for the disk, it becomes waved or curled.

Curv'ed. Bent inwards. See incurved.

Cushioned, *pulvinatus.* Convex and somewhat flattened.

Cusp. The bristle of a cuspidate leaf, calyx, &c. Nuttall.

Cus'pidate. Eye-tooth. Having a sharpened point and that tipped with a bristle, a prickle, or a lengthened apex, not curved. See mucronate and observe the distinction; also acuminate.

Cut. Divided by acute incisions: often used in composition, as cut-pinnatifid.

Cu'ticle. The thin outside coat of the bark, which has no life and is very durable, often transparent. It greatly resembles the scarf skin of animals. Very distinct on elder, currant and birch; on one species of birch it resembles paper.

Cya'neus. Blue. Hence, cyanic acid.

Cyathifor'mis. Wine-glass form. Cylindric widening gradually upwards, margin not revolute.

Cylin'dric. A cylindrical shaft, of nearly equal diameter throughout its whole extent; as stems of grasses. See terete, and note the difference.

Cymbifor'mis. See boat-form.

Cyme, *cy'ma.* Flowers umbel-like in their general external appearance. It agrees with an umbel in having its common stalks spring from one centre; but differs in having those stalks variously and alternately subdivided; as the elder, *(sambucus.)* Smith.

Cymo'sus, CYMO'SE. Being in cymes.

Cyphel'læ. See pits. 'Pale tubercle-like spots on the surface of the thallus, as in sticta.

D.

Dædal'eus. The end broad, waving and torn. Neatly formed.

DAGGER-POINTED. See cuspidate.

Deal'batus. Covered with an opake, white powder.

Debi'lis. Weak, feeble, lax.

DEBRIS. Ruined rocks. The broken fragments of coarsely disintegrated rocks.

DECAGYNIA. *(Deka*, ten, *gune*, female.) Tenth order of a class.

DECAN'DROUS. Plants having ten stamens in each flower.

Dechaphyl'lus. Ten-leaved; as of a calyx or pinnate leaf.

Decem'fidus. Cut in ten parts, or 10-cleft.

DECIDENS. Terminating; as in a point, in a summit, &c.

DECID'UOUS. Falling off in the usual season for similar parts to fall, as leaves falling at the decline of the year: corols falling off at the time the stamens fall, &c. See caducous and permanent.

DEC'LINATE, declined, *declina'tus.* Curved downwards arch-wise.

DECOMPOSI'TION. Separating the chemical elements of bodies. It differs from disintegration, which subdivides without decomposition.

DECOMPOUND, *decompos'itus.* Doubly compound. When a compound, or divided, petiole has a compound leaf on each part, the whole is a decompound leaf. The same with umbels, &c. See supra-decompositus.

Decortica'bilis. Easily peeled.

DECREASINGLY PINNATE, (decrescente pinnatus.) When the leafets diminish insensibly in size from the base of the leaf to its apex.

DECUM'BENT, *decum'bens.* When the base is erectish, and the remainder is procumbent and rising. It applies to stems, stamens, &c.

DECUR'RENT. When the two edges of a leaf extend downwards below the points of insertion, and become projecting wings to the stem. The gills of *agarics* are decurrent, when they run down the stipe in a single ridge.

DECUR'SIVELY PINNATE. When the leafets of a pinnate leaf run along the petiole with their extended bases.

DECUS'SATE, *decussa'tus.* When leaves or branches are opposite in pairs, and each pair stands at right angles with the next pair above or below on the same stem.

DEFLEC'TED, *deflex'us.* Bending down archwise, bent back.

Deflora'tus. Having discharged the pollen.

DEFOLIA'TION, *defolia'tio.* The shedding of leaves in the proper season.

Defolia'tio no'tha. The shedding of leaves before the proper time on account of injuries received.

DEHIS'CENT, *dehiscen'tia.* The natural opening of capsules in the proper season.

Deliq'uium. See debilis. Weak, very watery, dissolving.

DEL'TOID, *deltoi'des.* A leaf with four corners; that is, one at the stem, one at the apex, and one on each side; but the side ones are nearer to the base than to the apex. When the side angles are about as near to the apex as to the base, it is called a rhomboid leaf. Also the transverse section of a prismatic triangular leaf, stem, &c.

Demer'sus. See submersed. Under water.

Dendroi'des. Tree-form. Plants, recent and petrified, which exhibit forms resembling branches and leaves. See tree-form.

DENSE, *den'sus.* Close, compact. A panicle with abundance of flowers very close is dense. See thyrse.

DEN'TATE, *denta'tus.* Toothed.

—— *leaf.* (This term is of such almost unlimited extent, it is best defined negatively.) Projections from the margin of a leaf, which are of its own substance; and not serratures, nor crenatures.

—— *root.* That kind of granulated root, which resembles teeth strung together.

DENTIC'ULATE. Having very small teeth.

DEN'TOID. Remotely resembling teeth, or having processes somewhat of that form.

DEN'TURE. A tooth. An indenting also.

Denu'date. Plants whose flowers appear before the leaves, consequently have a naked appearance. To make naked.

Deor'sum. Downwards.

Depaupera'tus. Few-flowered. Deprived of flowers, &c.

Depen'dens. Hanging down.

Depressed. When the upper surface of a succulent leaf is a little concave. It applies to seeds also with flat tops. Also to plants which grow on a low-spread form.

Descen'dens. The entering of a root into the ground. The direction is *vertical*, as the beet; *horizontal*, as the mint; *oblique*, as the branching roots of most trees.

Det'ritus. That part of the surface of the earth, which is neither rock nor recently decomposed animal or vegetable matter. Ground or worn down rocks in the state of earth, not tertiary strata.

Dextror'sum. Twining from left to right; that is with the apparent motion of the sun; as the hop-vine.

DIADEL'PHIA. (*Dis*, twice; *adelphos*, brother.) The Linnean class of plants which have stamens united by filaments in two parcels. In some cases, as lupines, the stamens are in one parcel, but in such cases they must be papilionaceous.

Diadel'phous. Belonging to, or varying into, the class diadelphia.

Diagno'sis. A short description containing only what is essential. Linneus made it his rule, never to let a specific description exceed twelve Latin words. Willdenow says more must be added if necessary. It should extend no farther than to express the difference between that and the other species, if it is to be limited to a pure diagnosis.

DIANDRIA. (*Dis*, twice; *aner*, male.) The Linnean class with two stamens only to each flower.

Diaph'anous. Admitting the transmission of light obscurely. Translucent.

Dichot'omous. Forked. Stem, &c. parted in pairs, each branch parted in pairs again, and so on. When it is parted but once it is more properly called forked, *furcatus*.

Diclin'ia. (*Dis*, twice; *kline*, bed.) stamens in one flower and pistils in another, whether on the same or on different plants. This is the name of a class in Pursh's Flora, comprising most of the plants of the classes Monœcia and Diœcia.

This class Pursh divides into three orders. 1. *Segregatæ*, which includes plants, whose flowers are monœcious or diœcious; but are not in aments or strobiles. 2. *Amentaceæ*, which includes plants, whose flowers are in aments and not in strobiles. 3. *Coniferæ*, which includes plants, whose flowers are in strobiles, as pines.

Dicli'nious. (*Dis*, two; *kline*.) Plants, whose stamens and pistils are in different flowers, whether on the same plant, or on different plants.

Dicoc'cous. Two-grained. Consisting of cohering grains, or cells with one seed in each.

Dicotyled'onous. Plants with two cotyledous. See Cotyledon.

Did'ymous, *di'dyma.* Twinned, as some anthers.

DIDYNAMIA. (*Dis*, twice; *dunamis*, power.) The class which has 4 stamens to the flower, two of which are longest, as catnip.

Didyna'mous. Belonging to, or varying into, the class Didynamia.

Diffor'mis. Applied to a monopetalous corol, whose tube widens above gradually, and is divided into irregular or unequal parts. It is also applied to any distorted parts of a plant.

Diffracted. Twice bent. Antennae are diffracted, when bent outwardly, then forward, at short turns.

Diffu'sed, *diffusus.* Spreading. Expanded in an open loose manner.

Digitate. Fingered. When the base of several leafets rest on the end of one petiole; as the strawberry and fivefinger.

Digitato-pinnate. (*digitato-pinnatus*;) when the secondary petioles on the sides of which the leafets are attached, part from the summit of a common petiole.

DIGYNIA. (*Dis*, twice; *gune*, female.) The order of any of the classes as far as the Polyandria, which has two styles (if no styles 2 sessile stigmas) to each flower.

Dilata'tus. Expanded, widened.

Dilute. Prefixed to a color, implies that it is reduced; as dilute-purpureus, pale purple.

Dimidia'tus. See halved.

DIŒ'CIA. (*Dis*, twice; *oikos*, house.) The class whose stamens are in a flower on a plant which never bears pistillate flowers, as the hemp and willow.

Diœ'cious, *dioi'ca*. Belonging to, or varying into, the class *diœcia*.

Dipet'alous. Having two petals.

Diphyl'lous. Having two leaves.

Dipteryg'ia. See wings. Winged seeds.

Disappear'ing, (diliquescens.) Branched, but so divided that the principal axis is lost trace of in the ramifications; as the head of an oak tree.

Discoid. Resembling a disk. A tuft of leaves spread out so as to resemble a disk. Having a disk without rays. Such compound flowers as are wholly made up of tubular florets, that is, though they may have marginal florets differing from those in the disk in the essential organs; yet the corols will be all tubular, and not ligulate.

Disintegra'tion. The process of destroying the integral character of a body. Applied to geology it signifies, the process of crumbling down a rock, or reducing it to grains, pebbles or soil, by the two disintegrating agents, the variations of temperature and moisture.

Disk, *dis'cus*. The whole surface of a leaf, or of the top of a compound flower, as opposed to its edge or periphery. This term is also applied to the aggregate florets of an umbel, and to the broad or thickened top of a receptacle. It is applied to the outer surface of each valve of a shell.

Disper'mus. Containing but two seeds.

Dissec'tus. Gashed in deeply.

Dissep'iment. *Dissepimentum*. See partition.

Dissiliens. A pericarp is dissilient, when it bursts open with a spring; as the touch-me-not, (impatiens.)

Dis'tans. Standing off remotely.

Distichally. See distichus. Somewhat 2-ranked. This is a very odd adverb introduced by Nuttall.

Distichus. (*Dis*, twice! *stichos*, row.) Two-ranked. When branches, leaves, or flowers are arranged along opposite sides of the stem or spike, so as to point two opposite ways; as the leaves of the hemlock tree, (pinus canadensis.)

Distinct, *distinc'tus*. Separate, opposite to connate or confluent.

Divaricate, *divaricatus*. Branches spreading out from the stem so far, as to form more than a right angle with it above.

Diverging, *Diver'gens*. Branches spreading out from the stem so far, as to form almost a right angle with it.

Diur'nus. Enduring but a day.

Divi'ded, *divi'sus*. Severed into parts.

DODECAN'DRIA. (*Dodeka*, twelve: *aner*, male.) The Linnean class having more than ten and less than twenty. stamens to the flowers. Most botanists have rejected this class. and distributed its genera among other classes and orders.

Dodecandrous. Belonging to, or varying into the class *dodecandria*.

Dodecaphyllus. Having twelve leafets.

Do'drans. Longspan. Distance between the ends of the thumb and little finger, being both extended. About 9 inches.

Dolabrifor'me. See axe-form.

Dorsal, *dorsa'lis*. Fixed to the back. Back fins. Awns are dorsal, when proceeding from the outside of a glume and not from the tip.

Dorsif'erous. Bearing the fruit on the back; as ferns.

Dot'ted. Besprinkled with dots. See punctate and perforated.

Doub'le. Two in the place where most plants have but one; as the double calyx of the holly-hock, (althea.)

Doub'le-flowered. See full-flowered.

Doub'ly. See duplicate. In english it has its common appropriate meaning; as doubly-crenate, when the crenatures are crenated, &c.

Down or down'y. (*pubescence*) when hairs form a short, soft stratum, which partially covers the cuticle.

Drupe. *drup'a*. That kind of pericarp which consists of a thick, fleshy, succulent, cartilaginous coat, enclosing a nut or stone, proceeding from an ovarium, perfectly simple.

Drupa'ceous. Bearing drupes, or fruit resembling them.

Druses. Any cavities in minerals, which are lined with crystals.

Ducts are membranous tubes, with conical or rounded extremities; their sides being marked with transverse lines, or rings, or bars, or dots, arranged spirally, and being incapable of unrolling.

Dumo'sus. Bushy, or resembling bushes.

Duodecem'fidus. Cleft in 12 divisions, 12-cleft.

Duplica'to. Doubly. This term is often prefixed to others, in all which cases it simply means doubly; as duplico-ternatum, doubly-ternate or biternate.

Duplo, (triplo, or double, triple) signify that the organs to the name of which they are prefixed are twice or thrice as numerous or large as those of some other.

Dwarf, *(nanus, pumilus, pygmaeus;)* small, short, dense as compared with other species of the same genus or family.

Dynamous. Applied to plants whose flowers contain two or four stamens longer than two others in the same flower.

E.

Ear'ed. This term applies: 1st, to the round, extended, or appendaged lobes of a heart-form leaf; 2d, to the side lobes near the base of some leaves; and 3d, to twisted parts, in some ferns and some liverworts, which are supposed to resemble the conchus, or passage into the ear. Applied to shells, it means the flat processes near the hinge in bivalves; as the pecten, (scollop.)

Ebractea'tus. Without bracts. Floral leaves.

Ebur'neus. Ivory white; as the whole plant *monotropa,* called beech-drop, or birds-nest.

Ecalcaratus. Without a spur or horn.

Echi'nate, *echina'tus.* Hedgehog-like. Beset with erect prickles.

Ecos'tate. Nerveless or ribless.

Efflores'cence. The powdery substance on some lichens, composed of minute deciduous globules.

Efflorescen'tia. Flowering season of different sorts of plants. More simple flowers come out in June than in any other month, in North America. Very few compound flowers appear before August.

Effolia'tion. Unnatural falling of leaves by means of improper culture, worms, &c.

Effuse. Open, or having an opening, so that seeds, liquids, &c. may be poured out.

Eglandulo'sus. Glandless. Used in cases where glands are common.

Egret. See aigrette, pappus.

Elliptic. Longer than wide, rounded at or near both ends, and nearly equal in breadth towards both base and apex.

Ell, *(ulna, brachium,* ulnaris, brachialis;) twenty-four inches, as used in natural history.

Elon'gated. Lengthened out, as if extended beyond what is usual in similar plants.

Elytra. The outer, or upper, shelly wings of some orders of insects.

Emar'ginate. Notched in the end at the termination of the mid-rib. See retuse.

Em'bryon. See hilum. Eye of a bean, &c.

Endocarp. The inner coat of the fruit; covering the seed and its proper coats. The outer coat is the Epicarp. The fleshy substance (as of the apple, &c.) between them is called the Sarcocarp; but it is not a distinct coat.

ENNEAN'DRIA. *(Ennea,* nine; *aner,* male.) having nine stamens to the flower.

Ennean'drous. Belonging to, or varying into, the class *enneandria.*

Eno'dis, eno'de. Knotless. Having no joints; as the bulrush.

En'sate, *ensa'tus.* Having sword form leaves.

En'siform. Sword-form. Two-edged, tapering from base to apex mostly, and a little arching towards one edge; as flag and cat-tail, (Iris and Typha.)

Entangled (*intricatus,*) intermixed in an irregular manner.

Enti're. Continued without interruption. A margin of a leaf, calyx, corol, &c., is entire, when it is neither serrate, toothed, notched, nor in any manner indented. Used to indicate not pinnatifid, and also nearly destitute of marginal divisions.

Entomology. The science of insects; as lobsters, insects, spiders. It embraces the whole articulated division, excepting Annelida.

Ephe'merus. Of very short duration. Insect or plant of an hour.

Epicar'pus. On the germ. See superior. But this term is differently applied of late, See Endocarp.

Epider'mis. See cuticle.

Epigeus. (Gr. *epi*, upon, *ge*, earth) growing close upon the earth.

Epigynous. Growing upon the summit of the ovarium, or germ.

Epiphrag'ma. A thin membrane stretched over the mouth of the moss, *polytrichum.*

Epiphyllus. (foliaris); inserted upon the leaf.

EQUAL. Similar parts equal among themselves. The calyx, corol, &c., are equal, when the leafets, petals, or subdivisions, are similar in form, size and direction. Prefixed to pinnate, implies the absence of a terminal leafet.

EQ'UITANT. Opposite leaves embracing each other, so that they alternately enclose each other's edges; as the leaves near the roots of the Iris and yellow garden lilies (hemerocallis;) also the position of the leaves in some unopened buds.

ERECT', *erec'tus.* Upright. Not so perfectly strait and unbending as strictus. When applied to any thing laterally attached to the stem, as leaves, &c., it implies that it makes a very acute angle with it.

Erectius'culus. Erectish, sub-erect.

ER'GOT. See spurred rye.

Erina'ceous. Hedge-hog-like. See *echinatus.*

EROSE', *ero'sus.* Gnawed. Unequally sinuated, as if the sinuses had been eaten by insects.

ESCUTCHEON. A plate between the bases of wings of insects.

ESSEN'TIAL character. See diagnosis.

ESSEN'TIALS. The stamens and pistils.

EVERGREENS. Such plants as retain their leaves throughout the year; as white pine, laurel, &c.

EVERGREEN. Verdant throughout the year.

EXAN'NULATE. Ferns whose capsules are without rings. This comprises one section of ferns. Those which have an apparent vestage of, but not in reality, a ring, form another section. Those with a ring, another. See annulatus.

Exara'tus. See sulcate.

Exaspera'tus. See roughened. Harshly hirsute.

Excava'tus. Hollowed. With deep pits.

Excipulus. Is that part of the thallus which forms a rim and base to the shields.

Exogenous. Plants which receive their increase of volume upon the outside of the wood, and inside of the bark. They are the dicotyledonous division.

EXOT'IC, *exot'icus.* Plants not growing spontaneously in a wild state in that particular country, or section of a country.

EXPANSILE. Capable of being spread.

Explana'tus. Unfolded, spread out flat.

EXSERT, *exser'tus.* Standing-out. Stamens are exsert when protruded out of the corols. Peduncles of spikes in culmiferous plants are exsert, when protruded out of the sheaths: as carex folliculata and pubescens. Teeth may be exsert.

EXSTIP'ULATE. Without stipules.

EXTRAFOLIA'CEOUS. Outside of the leaf. A stipule is extrafoliaceous when it comes out a little lower than the leaf.

Extrors'um. Outwardly, turned outwards, or from its axis.

F.

Faci'es. The general external appearance of a plant.

FACTI'TIOUS. Produced by art; not natural.

FACTI'TIOUS character. A character, where the number of parts or some other circumstance not of essential importance, are taken into it. It admits of fewer or more characteristic marks, than are absolutely necessary.

FAL'CATE. See acinaciform. Flat and arched edgewise, in various degrees of curvature; like a scythe or sickle.

FAN'FORM. Spread out and plaited in a radiated manner, like ladies' fans. Same as *flabeliformis.*

Farc'tus. Stuffed, full. It is opposed to fistulous, hollow.

Fari'na. *Farinarius*, pollen, meal, flour, mealy, powdery.

Fasci'atus. Having parallel bands, or colored stripes. Also used to express the unnatural growing together of contiguous parts, as two or three apples growing together.

FAS'CICLE, *fascic'ulus.* A bundle. Flowers umbel-like in the general external appearance, with footstalks irregular in their origin and subdivision.

A bundle of tuberous roots is called a fascicle: as the asparagus root. Also a bundle of leaves; as of the white pine.

Fascic'ulate. An unnatural bundle of branchlets.

Fastig'iate, *fastigita'tus.* Level-topped. Applied to aggregate flowers, which are elevated to an equal height, or nearly so; forming a level, convex or concave top, differing but little from a plane. It is also applied to leaves; as the hog-weed (ambrosia artemisifolia.)

Favo'sus. See alveolate. Resembling honey-comb.

Faux. Jaws. The throat or opening into a corol. That precise spot, where the tubular part of a ringent corol begins to separate or expand into lips or mouth, is the faux.

Feat'her. See Aigrette. The plumose crown of seeds.

Fe'male, *femin'eus.* See pistillate.

Fen'ced. Walled around, as the stamens are by the scales in brookweed (samolus.) See Parietal.

Ferns. Filices. Cryptogamous plants, which have green leaves or fronds, with dorsal fruit; as breaks and polypods.

Ferrif'erous. Containing iron ore.

Ferru'ginous. *ferrugin'eus.* The color of iron-rust. Applied to masses of minute quartz crystals.

Fer'tile. Applied to pistillate flowers.

Fertiliza'tion. The application of the pollen, which is formed in the cells of anthers, to the stigma; which is essential to the production of perfect seed.

Fet'tered. Having entangling feathers on the legs.

Fi'bre, *fi'bra.* Any thread-form part. The small flexible thread-form roots of grasses and many other plants, are called fibres.

Fi'brous. Composed of fibres. Made up, in part, of loose fibres, as the rind of a cocoanut.

Fibrous cellular, *(fibro-cellular tissue)* is that in which the sides are composed either of both membrane and fibre together, or of fibre only.

Fid'dle-form. See panduriformis. Oblong and contracted latterly.

Figura'tum. This term is applied to the mouth of the capsule of a moss, when it is set round with membranaceous teeth.

Fil'ament, *filamentum.* That part of the stamen which is between and connects together the anther and the receptacle, calyx, or pistil. When the filament is wanting, the anther is sessile. In monopetalous corols, the filaments are generally inserted into, or are attached to, their bases.

Filices, the first order in the class cryptogamia. See ferns.

Fil'iform. Thread-like. Of nearly equal thickness throughout, round and cylindric. It is applied to spikes which are very long in proportion to their diameters.

Fimbria'tus. Fringed. Differs from ciliate in being less regular and of coarser parts.

Fimeta'rius. Growing naturally on manure heaps.

Fin'gered. See digitate. Sometimes applied to single leaves, deeply cleft into narrow segments.

Fissile. Easily split in the direction of the laminae.

Fissure. *Fissus.* A cleft or slitted apperture. Applied to rocks, &c.

Fis'tulous. Hollow like a pipe, flute or reed; sometimes tapering towards one, or both, ends; as the leaves and stalks of onions.

Flab'elliform. See fan-form. Resembling ladies' fans.

Flac'cid, *flac'cidus.* Too lax or limber to support its own weight.

Flagel'lum. *Flagellifor'mis.* Resembling a whip-lash. A runner.

Flam'meus. Flame colored.

Fla'vus. Yellow, yellowish.

Flesh'y. Thick and filled with pulp within, as liverwort.

Flex'ible, *flex'ilis.* Easily bent.

Flex'uose. Bending and frequently changing directions; as from joint to joint, branch to branch, leaf to leaf, etc.

Flex'us. Bent. This relates to but one bending. See geniculate.

Flo'ating. See natant. Lying or moving on the surface of water, as the Lemna, (water-flaxseed.)

Flocco'se, *flocci.* Woolly, or resembling the flocks sheared from cloth. Woolly filaments found mixed with sporules.

Flo'ral. Relating to a flower-*bud*, containing an unopened flower-leaf, a bract.

FLO'RET. Little flowers. Whether the flower is large or small it is a floret, if it is one of a number all of which constitute an aggregate or compound. As the little flowers which make up the head of a thistle, a head of wheat, the umbel of a carrot, etc.

Floribun'dus. Abounding in flowers, beyond other species.

FLORIF'EROUS. Bearing flowers. A leaf is floriferous when a flower grows out of its disk or margin.

FLO'RIST. One whose employment is that of creating monsters; that is, double and various colored; as carnations, double roses, &c.

FLOS'CULAR, *flosculo'sus.* See tubulous.

Flos'culous. Tubulor floret. Nuttall applies it to the florets of grasses; but ought not to be followed.

FLOW'ER. The stamens and pistils with their covering. These two organs, or rather their anthers and stigmas, are essential to all plants. But the calyx, corol, and even nectaries when present, are parts of the flower.

FLOWER-BUDS consist of rudimentary leaves, surrounding a point which does not elongate after it is once developed, and assumes, when fully developed, the form of reproductive apparatus.

Fluvia'tilis. Growing naturally in rivers and brooks.

Fœ'tidus. Smelling disagreeably.

FOLD. Annexed to numerals, denoting so often combined; as five-fold leaves, growing in fives, &c.

FOLIA'CEOUS, *foliatus.* leafy; leaves intermixed with flowers on a spike, or in other aggregates; abounding in leaves.

FOLIA'RIS. A tendril on a leaf. A bud containing leaves only.

FOLIA'TION, *folia'tio.* The manner in which unopened leaves are situated within the bud. The modes of foliation are: 1. Involute. 2. Revolute. 3. Obvolute. 4. Convolute. 5. Imbricate. 6. Equitant. 7. Conduplicate. 8. Plaited. 9. Reclinate. 10. Circinal. See each in its proper place.

Folif'erous. Particularly adapted to bearing leaves; leaf-bearing.

FOL'IOLE, *foli'olum.* See leafet. One of a compound leaf.

Fol'ium, folio'sus. Leafy, leaf.

FOL'LICLE, *Folicu'lus.* A pericarp with one valve, which opens lengthwise on one side only; as milkweed, (asclepias.)

Fontina'lis. Growing naturally about springs or fountains.

FOOT, (pes, pedalis;) twelve inches, or the length of a tall man's foot. Also applied to the stems of leaves and flowers.

Foraminulo'sus. Pierced with many small holes, or foramens. Divided into two pretty long parts, as petals, branches, &c.

FORMA'TION. A term used by geologists to express more or less than a definite stratum; as detritus is called alluvial formation, iron formation may apply to the ferriferous rocks and their iron contents.

Fornica'tus. Arched, vaulted, bent over archwise.

Fov'ea. A nectariferous cavity for the reception of honey. Honey-comb-like.

Fovil'la. The fine substance contained in the particles of pollen. When the ripe pollen comes in contact with the moist stigma, it explodes and discharges the fovilla.

Frag'ilis. Breaking easily and not bending.

FREE. A germ is free, when not attached to the surrounding calyx or corol. Used for disconnected, disunited, not adnate.

Frigi'dus. Growing naturally in cold countries; arctic.

FROND, *frons.* An herbaceous, a leathery, a crustaceous, or gelatinous leaf, or somewhat of a leaf-like stem or bed, from which, or within which, the fruit is produced. It is applied exclusively to the class cryptogamia, and *palms.*

FRONDO'SE, *Frondosus.* Leafy, frond-like or leaf like.

FRONTLET. The part back of the base of a bird's bill. Generally bristly.

Frosted, (pruinosus;) nearly the same as roridus, but applied to surfaces in which the dewy appearances are more opaque, as if the drops were congealed.

Frutescen'tia. Applied to palms and such others as have a simple stem, and leaves only at top.

FRUCTIF'EROUS. Bearing, or becoming fruit.

FRUCTIFICA'TION, *Fructifica'tio.* "The temporary part of vegetables which is destined for the reproductions of the species, terminating the old individual, and beginning the new."—Linneus.

Fruit, *fruc'tus.* The seed, with its enclosing pericarp. Procure several unbaked pea-nuts. (Arachis hypogaea, for sale in all fruit-shops,) being one of the best examples for illustrating fruit and seed; soak them in warm water a day or two. On carefully dissecting several of them, it will be found that the outside covering is a single carpel, easily divided into two coats, *epicarp* and *endocarp.* [See endocarp.] But no sarcocarp will be found between them. Now examine the seeds, Two coats, *primine* and *secundine,* will be found very distinct; though thin and membranous. According to the opinions of many botanists, there may be two or three coats, so closely attached to each other and to the seed, as to be hardly separable. These (real or ideal) coats are called *tertine*, *quartine*, and perhaps even *quintine.* Before the pea-nut was ripe, the pod was called *germ*, or *ovarium.* The seed and the two (or perhaps five) coats, together with the nucleus, constituted the ovules.

Fruit'dots. Assemblages of capsules on the backs of ferns. Also small assemblages of powdery bodies on the fronds of lichens, called *soredia.*

FRUSTRA'NEA, (*Frustra*, in vain,) *polygamia.* The third order of the class Syngenesia, which bear compound flowers with perfect florets in the disk, and neutral ones in the ray; as the sunflower.

Frutex, *fruticosus*, frutescent. Woody, or becoming woody; as lilac, steeple-bush. Mostly applied to bushy, or bush-like shrubs, which arise from the root in numbers; not in a single bole, like trees of oak or poplar.

Fug'ax. Fugaceous. Soon disappearing. Flying off. See ring.

Fulcra'tus. Having appendages, as tendrils.

Ful'crum. There are seven: 1. Stipule. 2. Bract. 3. Thorn. 4. Prickle. 5. Sting. 6. Gland. 7. Tendril. See each in its proper place.

Fuligineus. Sooty, dark, dull color.

Full-flowered. When the petals of the corol are so multiplied as to exclude the stamens; which is effected by the stamens becoming petals, as the peony, rose, &c. This rarely takes place in monopetalous corols.

Ful'vous. *Ful'vus.* Yellowish rust-color.

FUN'GI, funguses. However, unsightly a common toad-stool, the mould on old scraps of leather in damp places, or the blight in grain, may appear to the careless observer, they are all beautifully organized, and highly interesting.

Fungo'se. *Fungus.* Fleshy and spongy. This term is sometimes put for pileus.

Fu'nicule, *Funic'ulus umbilica'lis.* The thread by which a seed is fastened at the hilum.

Funnel'form. A corol with a tubular base, and a border opening gradually into the form of a reversed cone.

Fur'catus. See dichotomous. Forked.

Furfura'ceus. Bran-like.

Fur'rowed. See sulcate. Marked lengthwise with a channel.

Fus'cus. Sooty-yellow, dark-yellow.

Fu'siform, *fusifor'mis.* Spindle-form. A root thick at the top and tapering downward to the point, is fusiform; as the beet and carrot.

G.

Gal'ea. See labiate. A helmet. Upper lip.

Ga'leate, *Galea'tus.* Resembling a helmet, or broad upper lip.

Gallis, *Gal'læ.* Excresences produced by the stings of insects. The balls found on oaks which are used in dyeing, the common large green oak-balls, the singular green lumps found on the wild honey-suckle, &c., are examples. The irritation upon the delicate sap-vessels, produced by the sting and egg of the insect, causes a greater flow of sap in that direction. This pressure of sap distends and distorts the capillary tubes and membranes, until those excresences are formed around the egg. In due time the egg becomes a larva, a maggot, which after feeding a while upon the gall, changes into the pupa, or chrysalis, and at last escapes a perfect insect, or fly. Each fly produces a gall of a peculiar form.—Willdenow.

Gangue. The part of a rock which lines a vein and embraces a mineral, and is unlike the rest of the rock.

Gape. The opening between two lips of a labiate, or irregular corol. Applied to mouths of birds.

Gelatinous, (*gelatinosus.*) Having the texture and appearance of jelly.

Gem'inus. See double. It is also used for paired, in pairs or twins.

Gemma'tion, gem'ma. Budding. The gemmation of plants comprehends the developement of a new plant from the bud, as well as the foliation.

GEMMIP'AROUS. Producing buds in the axils of leaves.

GEN'ERAL. See partial. General is applied to a whole, which is made up of a number of entire individuals. The *umbel* of a garden carrot is a *general umbel;* and each *umbellet* terminating a secondary branch is a *partial umbel.*

GENER'IC CHAR'ACTER. The definition of a genus. It is confined entirely to the flower and fruit. It is *essential, factitious,* or *natural;* which see.

GENER'IC NAME. The name of a genus. Milne enumerated 21 rules respecting the naming of *genera;* which with his examples occupy 40 pages. See Lindley, p. 433.

GENIC'ULATE. Kneed. Forming a very obtuse angle, like a moderate bending of the knee.

Gen'tes. Nations. Linneus divided plants into nine great natural tribes or casts. 1. Palms. 2. Grasses. 3. Lilies. 4. Herbs. 5. Trees. 6. Ferns. 7. Mosses. 8. Algæ. 9. Fungi.

GE'NUS, (plural *gen'era.*) A number of plants which agree with one another in the structure of the flower and fruit. Willdenow.

GEODE. A cavity in a mineral whose sides within are more or less spherical. It may be empty or it may contain minerals different from the mineral containing the geode.

GERM, *germen.* That part of the pistil, which, after the pollen is received, soon contains the rudiment of one young plant or more. Its whole substance becomes the pericarp and seed as it enlarges itself. See ovary.

When the calyx comes out below the germ, the germ is *superior*, and the calyx *inferior;* when the calyx comes out of the upper part of the germ, the germ is *inferior*, and the calyx *superior.*

GERMINA'TION. The swelling of a seed, and the unfolding of its embryo. It should be carefully watched.

GIB'BOUS. Bunched out. When one or both sides are swelling out.

GILL-COVERS. The bony or cartilaginous covering placed over, or outside of, the gill-membranes.

GILL-MEMBRANES. The membranes immediately covering the gills.

GILLS. See lamella. Lungs of fish. Lamina of toadstools.

Gil'vus. Iron-grey, and brick-color.

Glabel'lus. Bald. Without hairs, or other covering.

GLA'BROUS, *gla'ber.* Sleek. Having no pubescence. Glaber is often translated smooth; but a leaf with soft cottony pubescence is smooth, though it is not glabrous; as gnaphalium.

Gladia'tus. A sword-form legume is sometimes called gladiate. See ensiform. It is applied to leaves also.

GLAND, *glan'dula.* A round, or roundish appendage which serves for transpiration and secretion. They are situated on leaves, stems, calyxes, and particularly at the base of stamens in some cruciform flowers; as mustard. Glandular hairs, or hairs with glandular heads, are very abundant on the common hazlenut invclucre, of North America, (corylus americana) Also on the Prunus.

GLAN'DULAR, Glan'dulous, *glandulosus.* Having glands.

GLAU'COUS. Clothed with a sea-green mealiness like some cabbage leaves. It is sometimes put for a greenish-gray color. This color, *ferruginous* and *hoary*, are so constant, that they are used in specific descriptions. Most other colours are excluded on account of their being too variable to be relied on.

GLOBO'SE, *Globosus.* Spherical, round on all sides like a ball. Some authors apply it to circular leaves.

GLOB'ULES. Minute spheres. That kind of receptacle of lichens, which is globose, solid and crustaceous, formed of the substance of the frond, and terminating its points or branches; from whence they fall off entire, leaving a pit or cavity. They are supposed to be covered all over with a colored seed-bearing membrane. Smith.

Glo'chis. See barb. Hooked beards.

GLOM'ERATE, *glomera'tus.* When many branchlets are terminated by little heads. Richard. A spike is glomerate when it consists of a collection of spherical heads. Willdenow.

GLOM'ERULE, *glomer'ulus.* The small heads constituting a small glume, or head.

GLUMA'CE'US. Glume-like, on bearing glumes, chaffs, husks.

GLUME, *glu'ma.* Consists of the scales or chaffs which surround or enclose the stamens and pistils in the flowers of grasses. The lower ones are called the calyx, or glumes proper, all others the corol or paleas. Bractae when placed immediately below the stamina and pistils, as in apetalous flowers, are only distinguished from the calyx by being alternate with each other, and not verticilate. Husks, glumes, or chaffs of corn or grasses are bracteae and not calyxes, in strict physiology.

Each scale, chaff, or husk, is called a valve; which gives the names *bivalve*, with 2 husks or chaffs; *univalve*, with one, &c.

When several flowers are arranged along a rachis in a spikelet with a valve or two, or more, below the lowest flower, these are called the common or general calyx (gluma communis;) and the glume to each floret on the spikelet above is called partial (gluma partialis.)

GLUMO'SE. Having glumes.

GLU'TINOUS, Having on some part more or less of adhesive moisture.

GOBLET-SHAPED, *(crateriformis,)* concave hemispherical, a little contracted at the base.

GONGYLOUS, *Gon'gulus.* A knot. It is applied to a round, hard body, which falls off upon the death of the mother plant or animal, and becomes a new one; as in the *fucus* and some radiated animals. Large granulated sporules are contained in the centre of some.

GONOP'TERIDES. Angle fruit fern, one of the new orders of ferns. The receptacles of the fruit are polygons; as of the genus Equisetum.

GRAM'INA. The family of grasses. See gentes. But in a limited sense, the sedges, rush grasses, &c. are not included. See Natural Orders. Culmiferous is the most extensive term; and most of this vast family have three stamens in each flower, though many of them are monœcious. The rice, star-grass and rush-grass have six stamens to the flower.

Graminifol'ius. Having leaves resembling those of grasses.

Grandiflo'rus. Having large flowers.

Granif'erous. Bearing grains or kernels; as those on the valves of dock-flowers.

GRAN'ULATE, *granula'tus.* In the form of grains. A granulate root consists of several little knobs strung together on the side of a filiform radicle. It differs from the knobbed tuberous roots, in this; that the latter are strung together by rootlets, which proceed from near the middle of one knob to another.

GRANULA'TIONS. Grain-like substances.

Graveolens. Having a strong odour or scent.

Greasy, (unctius;) having a surface, which, though not actually greasy, feels so.

GREGARIOUS. In flocks, applied to fungi and other plants growing together in groups; but not so as to be cæspitose, or to form a turfy mass.

GRESSORAL. Bird's feet, which are formed for running; having three toes forward and one back, and the two outer toes mostly joined towards the base.

Grumous (grumosus;) in form of little clustered grains.

GUITAR-FORM. See panduriformis. Fiddle form.

Gymnocarpi fun'gi. Such as bear seeds in a naked *hymenium*, which see.

Gymnosper'mus (*Gumnos*, naked; *sperma*, seed.) With seeds naked, or growing without pericarps.

GYNANDROUS. (*Gune*, woman; *aner*, man.) Applied when stamens grow on pistils, but not in immediate connexion with the calyx or corol.

GYNABASE. A supporting disk or elevating axis under the ovarium or germ; being a kind of receptacle to the ovary, elevating it more or less, as in Labiate plants, and the borage-like.

H.

Habia'tio. The native residence of plants; or the situation wherein they grow most naturally.

HAB'IT, *habi'tus.* The external appearance of a plant by a general view of which we know it without attending to any of its essential characters.

A knowledge of the habits of plants is to be acquired by first seeing them in a growing state, and then by repeatedly reviewing them in an *herbarium.*

HAL'BERT-FORM. See hastate.

HALTERS. Globules on slender stems, under the wings of some two-winged insects, called poisers.

HALV'ED. One-sided, as if one half had been taken off; as the halved spathe of some Indian turnips, one-sided involucres, &c.

Ha'mus, Hamosus. A hook, as the hooked spines on burdock.

Has'tate. Halbert-form, or shaped like an espontoon. A leaf with processes near the base from each edge, which are acutish; as common sorrel leaves. When these processes point considerably backwards, the leaf is sagittate.

Head. Flowers heaped together in a roundish form, with no peduncles, or very short ones; as clover-heads. This term is applied to a globular stigma also.

Heap'ed. Compact, but hardly as close as *dense.*

Heart'-form. See cordate.

Heart-wood. The dead and fully-formed central layers are called the heart-wood.

Hedge'hogged. See echinate.

Hel'met. See labiate. Upper lip of a labiate corol.

Helminthology. The science of worms, including molluscous and radiated animals.

Helvolus. Pale red. Peach-bloom.

HEPATICÆ. The third order of the class Cryptogamia. It includes the hepatic mosses, as denominated by Schweinitz; that is, those which have the fructification spread cruciformly, and have succulent leaves; the brook-liverwort is an example, (marchantia.)

HEPTAGYNIA. Seven-styled.

HEPTANDRIA. (*Hepta,* seven; *aner,* male) Having seven stamens to the flower. A small class; the chick-wintergreen, (trientalis,) is our best example.

Heptan'drous. Belonging to, or varying into, the class heptandria.

Herb, *herba.* Any plant which has not a woody stem.

Herba'ceous. Not woody. Also applied to plants perishing to the root.

Herb'age. All that part of vegetables which is bounded by the root below, and by the fructification above.

Herba'rium. A collection of dried plants. No person can ever become a good practical botanist without an herbarium. The uses of an herbarium are principally two.

1. *To revive in the memory of names aud habits of plants.*
2. *When plants are not in flower, they often want some of their most striking habits. In such cases comparison is essential.* No directions can be sufficient. The teacher must learn, mechanically, how to direct his pupils in collecting and preserving plants.

Herba'rius. An herbist. One who collects and sells plants.

Hermaph'rodite. See perfect flowers.

HEXAGYNIA. (*Hex,* six; *gune,* female.) The sixth order of any of the first classes as far as Polyandria. Six styles or stigmas to each flower.

HEXANDRIA. (*Hex,* six; *aner,* male.) The sixth class; six stamens to each flower.

Hexan'drous. Belonging to, or varying into, the class *hexandria.*

Hexapetaloi'des. A one-petalled corol so deeply divided as to appear 6-petalled.

Hi'lum. The external scar or mark on a seed, where the funicle, or thread, is attached to it and conveys its nutriment till ripe. It indicates the union of the seed with the placenta, often called the umbilicus. The hilum represents the base of the seed; the apex is determined by the point where the vessels, or tissue, of the integuments concentrate.

Hinge. The part of a bivalve shell, where the two valves are united by a flexible cartilage.

Hinoideus. Whence all veins proceed, and are parallel and undivided.

Hir'sute, *hirsutus.* Rough-haired. Covered with stiffish hairs, but hardly stiff enough to be called bristles.

Hir'tus. Covered with short stiff hairs. Nearly the same as hirsute.

His'pid, *hispidus.* Bristly. Beset with stiff hairs, or rather with bristles, which are short.

Hiulcus. Cracked open: a gaping chink.

Hoar'y. Whitish colored, arising from a scaly mealiness, or short, dense hairs.

Holera'ceus. Suitable for a pot herb, as dock, and beets.

Hol'lows, (thalamia.) That kind of receptacle of *lichens* which is spherical, nearly closed, lodged in the substance of the frond, lined with its proper coat, under which are cells 2 or 4-seeded. Each hollow finally opens by an orifice in the frond above. Smith.

Homotropal, (*homotropus.*) Having the same direction as the body to which it belongs, but not being straight.

HONEY-COMBED, *(favosus alveolatus.)* Excavated in the manner of a section of honey-comb.

HOOKED, *(uncinatus.)* Curved suddenly back at the point.

HORIZON'TAL. Parallel to the horizon. Leaves are horizontal, when they form right angles with erect stems.

HORN'-FORM. Shaped liked a horn, or rather like a cock's spur. See spur.

Hu'midus. Moist, humid.

HU'MIFUSE, *humifusus.* Spread over the ground. Richard defines it spread on the ground, and not rooting.

Hum'ilis. Low, humble.

HUSK. The larger kind of glume; as the husk of Indian corn.

HY'ALINE, *hyal'inus.* Colorless. Transparent, like glass or water; as quartz in granite.

HYBER'NACLE, *hybernac'ulum.* See bud. Winter residence.

Hybernalis. Growing in the winter season.

HY'BRID, *hy'brida.* A mule. A vegetable produced by the mixture of two different species. The seeds of hybrids will not propagate. They are produced by sprinkling the stigma with the pollen of a different species. Care must be taken in such cases to prevent any pollen of its own species from falling on it first.

HYDROP'TERIDES. Water fern. A new order of ferns. It is adopted by Pursh, Torrey, &c. Isoetes, azolla and salvina, are placed here.

Hyema'lis. Growing in the winter season.

Hyme'nium. An exposed or naked, dilated, appropriate, membrane of gymnocarp fungi, in which the seeds are imbedded: the part in which the sporules immediately lie. In Agaricus, it consists of parallel plats, lamellae, or gills; these are adnate with the stipes, when the end next it cohere with it.

HYPERDECANDROUS. Flowers containg more than ten stamens.

HYPHA. The filamentous, fleshy, warty thallus, or bissus.

Hypocrateryfor'mis. See salver-form; flat-bordered tube.

HYPODECANDROUS. Flowers containing fewer than ten stamens.

Hypog'ynus. Under the style, or growing from below the base of the germ, or ovarium; or when the stamens do not contract any union with the sides of the calyx, they are hypogynous.

Hysteranthus, when the leaves appear after the flower, as some willows, peaches, &c.

I. J.

ICTHYOLOGY. The department of Zoology, which treats of fish. It includes those aquatic animals which have gills and fins.

I'cones planta'rum. Figures or drawings of plants.

ICOSAN'DRIA. (*Eikosi*, twenty; *aner*, male.) More than 10 stamens.

The calyx is always monophyllous, and the claws of the petals fixed into the side of it along within the stamens. *Calycandrous* is a name embracing plants of this class. Darlington.

ICOSAN'DROUS. Belonging to, or varying into, the class *icosandria.*

Icterus. Jaundice. The change of color of leaves in autumn to yellow, reddish, &c., as maple.

IMAGO. A perfect, full-fomed insect. It is applied to express the state of an insect, after it has passed from the crysalis to the insect state.

Imber'bis. Beardless. See beard.

IM'BRICATE, *imbricatus.* Leaves, scales, &c., lying over each other, or one covering the place where two others meet, like the shingles or tiles on a roof.

IMMARGINATE. Having no border or peculiar margin.

Im'pari-pinna'tus. Unequally pinnate. When a pinnate leaf is terminated by a single or odd leafet.

IMPER'FECT, *imperfectus.* Wanting the stamen or pistil. No flower is perfect without both organs; but with an anther and stigma the flower is perfect, though destitute of calyx and corol.

Inæquivalva'tus. Valves of capsule or glume unequal.

Ina'nis. Having a spongy pith.

Inaper'tus. Hollow, but without any opening.

Inca'nus. See hoary. Whitish.

Incarna'tus. Flesh-colored.

INCI'SED; *Incisus.* Cut in like a gash with a knife, but not deep enough to be called a cleft. If the crenatures or serratures of a leaf are cut, to appearance, with a slit or gash, this term applies.

INCISOR. Fore tooth. The flattish front cutting teeth.

INCLI'NED, *inclinatus.* Bent towards each other. Also bent towards something different.

INCLU'DING, *includens.* One thing containing another within it; as the calyx shutting up the seed capsule or corol.

Inclu'sus. Enclosing. Opposed to exsert. Stamens not projecting.

INCONSPICUOUS, *inconspic'uus.* Not apparent without the aid of a magnifier.

INCRAS'SATE. Thickening. When a flower-stem grows thicker upwards towards the flower.

IN'CREMENT. The quantity of increase for a given time.

INCUM'BENT, *incumbens.* Leaning upon or against. When an anther lies, as it were, somewhat horizontally upon the top of the filament.

IN'CURVED, *incurvatus.* Bent inwards. As a leaf bent in at the point towards the stem, a filament towards the pistil, a prickle towards the stem.

INDIG'ENOUS. Plants growing naturally and originally in a country.

INDISTINCT. Applied to insects, whose heads and trunks are in one piece.

Indivi'sus. Undivided. Not cleft into parts. It may however be serrate, crenate or toothed; it is therefore not the same as entire.

INDUPLICATE. See conduplicate. A leaf in the bud having its two sides shut like the leaves of a book; the midrib being in place of the back.

IN'DURATED, *indures'cens.* Becoming hard, tough, or leathery.

Indu'sium. A shirt. It is used by some authors for the thin membranous covering on the fruit of ferns. But Smith prefers retaining the old name, *involucre*, which see.

Iner'mis. See unarmed. Having no thorns, prickles, &c.

Infer'ne. Downwards. Towards or near the base or root.

INFE'RIOR, *inferus.* Below. A calyx or corol is inferior when it comes out below the germ. See germ.

In'fimus. At the very bottom or base, lowest.

INFLA'TED, *infla'tus.* Appearing as if blown up with wind. A very small degree of inflation is sometimes noticed in descriptions; as the calyx in *silene.*

INFLEX'ED, *inflex'us.* The same as incurved. Suddenly bent inwards.

INFLORES'CENCE, *inflorescen'tia.* The mode by which flowers are connected to the plant by the peduncle. It is of 10 kinds. 1. Whorl. 2. Raceme. 3. Panicle. 4. Thyrse. 5. Spike. 6. Umbel. 7. Cyme. 8. Corymb. 9. Fascicle. 10. Head. See each in its place.

Infrac'tus. Bent in with such an acute angle as to appear as if broken.

Infundibilifor'mis. See funnel-form.

Inguinans. Stained. Applied to fungi, &c. when the color appears as if painted on artificially.

Ino'dorus. Having no smell.

Insigni'tus. Marked with.

Instruc'tus. Furnished with.

Integer'rimus. Very entire, having no dentation whatever.

INTERCELLULAR PASSAGES. If the adhesion of the contiguous cells be imperfect, (and it frequently is,) spaces will exist between them; such spaces are called intercellular passages.

INTERFOLIA'CEOUS. Situated along the stem between the origin of the leaves, not opposite to them.

Intermed'ius. Between two extremes, or nearly so.

INTERNO'DE, *interno'dius.* The space between joints or knots.

INTERRUP'TED, *interrup'tus, interrup'te.* When organs of a different kind or different size, are intermixed or interposed among a series. A spike is interrupted, when leaves or smaller flowers are interposed at intervals.

INTERRUPTEDLY PIN'NATE. When smaller leafets are interposed among the larger; as the potatoe and agrimon leaves.

INTERSCAP'ULARS. The back feathers of a bird, between the bases of the wings.

INTOR'SION, *intor'sio.* Twisting, twining, or bending inwards, from a straight upright position. See twining, contorted, and twisted inwards.

INTRAFOLIACEUS. Within the leaf. A stipule is intrafoliaceous, when it originates a little above the origin of the petiole, which brings it, as it were, within the bosom of the leaf.

INTRODU'CED. Not originally native. Brought from some other country.

Intror'sum. Inwardly. Turned inwards.

INVERTED. Having a part of an organ in an opposite direction to that of other analagous parts.

INVOLU'CRE, *involu'crum.* That kind of calyx which comes out at a distance below the flower, and never encloses it like the spathe, of a leafy texture and color, generally at the origin of peduncles of umbels. When it is all on one side, it is called *dimidiate*, halved. Some botanists substitute involucre for the common calyx of compound flowers; others use *periclinum*, *periphoranthium*, &c.

Involucres of ferns generally lie on the tops of the capsules, like a piece of linen spread out to dry; hence they are called *indusium*, a shirt.

INVOLU'CRED, *involucra'tus.* Having involucres.

IN'VOLUTE, *involu'tus.* Rolled inwards. A term in foliation: applied to leaves whose opposite margins are rolled in and continued rolling, till the two rolls meet on the midrib and parallel to it. Applied to shells it signifies, that the spire is in whorls which are concealed within the shell, as cypraea.

JOINTS. Swelling knots, rings, or narrowed interstices, at regular intervals, along culms, pods, spikes, leaves, &c.

IRID'EOUS, Iridescent. Reflecting light somewhat like a rainbow.

IRREG'ULAR, *irregula'ris.* Differing in figure, size or proportion of parts, among themselves.

IRRITABIL'ITY. The power of being excited so as to produce contractile motion.

ISH. A terminal diminutive, as round*ish*, *somewhat* round.

Isos, (equal) placed before the name of an organ, indicates that it is equal in number to that of some other understood; thus *isostamenous* is said of plants the stamens of which are equal in number to the extent of the purpose in view.

Isthmus. Long narrow joints in legumes or loments.

Jug'um. Yoke. In pairs.

Ju'lus. See ament. A cylindrical (or semi-cylindric) centipede. A cylindrical ament.

K.

KEEL. The lower petal of a papilionaceous corol. The stamens and pistils lie enclosed in it.

KEEL'ED. Having a ridge resembling the keel of a boat or ship. A leaf, capsule, calyx, &c. is keeled when it has the midrib, angle, or peculiar process, running along the back, of a compressed form, and attached by one edge.

KID'NEY-FORM. Hollowed in at the base with rounded lobes and rounded end. Its breadth is generally as great as its length.

KNOB'BED. In thick lumps; as potatoes.

KNOBS. (Cephalo'dia.) That kind of receptacle of lichens, which is convex, more or less globular, covered externally with a colored seed-bearing crust, and placed generally at the extremities of stalks, originating from the frond, permanent: rarely sessile. Sometimes they are at first *spangles* on filamentous lichens, and afterwards become convex irregular knobs. They are simple, compound, or conglomerate. Smith.

KNOT. A swelling joint. See joints.

KNOT'TED. Having swelling joints. See Torulose and Torose.

L.

LA'BIATE. Having lips; or a calyx or corol divided at the top into two general parts; somewhat resembling the lips of a horse or other animal, by the aid of imagination.

Labiate corols are divided into *ringent* and *personate*.

Ringent, such as have the lips open or gaping, as sage.

Personate, such as have the lips closed or muffled, as toad-flax.

Labyrinthifor'mis. Winding and turning by various involutions and contortions like a labyrinth.

LACERATED, *lace'rus.* Torn. Cut, or apparently torn, into irregular segments.

Lacin'ia. The divisions of a calyx, corol, leaf, &c. into which they are cleft, torn, or divided.

LACIN'IATE, *lacinia'tus*. Jagged, Irregularly divided and subdivided, cut or torn. Hardly different from lacerated.

LACTES'CENCE, *lactescen'tia*. Milkiness. The milky juice of some plants; as the milkweed (asclepias.) It is also called by this name, when the juice is red; as in the bloodroot (sanguinaria.)

Lac'teus. Milk-white.

Lacunae. Small hollows or pits on the upper surface of the thallus.

LACU'NOSE, *Lacunos'us*. Pitted. Hollow between the veins of a leaf, when the blisters are under side of the leaf instead of the upper. Also applied to pits.

Lacus'tris. Growing most naturally in or about lakes.

Læ'vis. Smooth, even, polished; not striate, or wrinkled.

Lamel'la. A thin plate. Applied to the gills or vertical plates under the hat or pileus of the agaric fungus, or toadstool.

—— *æqua'lis*. When all the gills reach from the stem to the margin of the hat.

—— *inæqua'lis*, or *interrup'tus*. When some reach but part of the way.

—— *biseria'lis*. When a long and short gill alternate.

—— *triseria'lis*. When one long and two short gills alternate in pairs.

—— *ramo'sa*. When several gills unite in one, so as to appear branched.

—— *decur'rens*. When they run down the stem more or less.

—— *veno'sa*. When so narrow as to have the appearance of veins.

LAMEL'LAE. Applied to the two terminal plates of the antennae of some insects; also to somewhat similar plates constituting the stigma at the end of some styles, as the convolvulus, bindweed.

LAMELLATE. In the form of thin plates, or having thin plates.

LAM'INA. The broad upper part of the petal of a polypetalous corol. See petal.

LAMINATED. Consisting of several thin flat portions.

LA'NATE, *lana'tus*. Woolly. Covered with curly, crooked, close, thick pubescence. Not so fine, nor so closely matted together as *tomentose*.

LANCE'OLATE, *lanceola'tus*. In the form of the lance of the ancients. When the length greatly exceeds the breadth and it tapers gradually from near the base to the apex.

LANCE-O'VATE, &c. *lanceolatova'tus*, &c. Partaking of the lanceolate form and of that with which it is compounded.

Lanu'go. Down, or wool.

Lappula'ceus. Burr-like, roundish and prickly, as burdock.

LARVA. The caterpillar state of an insect. It is called maggot, skipper and grub, while in this state.

Laterifol'ius. Side-leaved, inclining to one side.

Latifol'ius. Broad leaved.

Lateri'tius. Brick-coloured, reddish.

LATTICED. Resembling net-work.

LAX, *Lax'us*. Limber, loose, open, weakly flexile. See flaccid.

LEAF. That part of most vegetables, which presents more surface to the atmosphere, than all other parts; and consists principally of the cellular integument covered with the cuticle.

They are *evergreen*, remaining through the winter; or *decid'uous*, falling off at the close of the year.

They are further distinguished by their *forms*, *surfaces* and *positions*. All of which are described under their peculiar names.

LEAF-BUDS, (gemmæ:) being the rudiments of young branches, they consist of scales imbricated or otherwise disposed over each over, surrounding a minute axis. Bulb is a leaf bud of the root.

LEAFING SEASON. That time in the year when most leaves come out. In North America, the proper leafing season is in April.

LEAF'ET, or **LEAF'LET**. One of the lesser leaves which, with others, constitute a compound leaf. A simple leaf is never a leaflet, however small.

LELF'LESS. Destitute of leaves, naturally. This term does not apply in cases of *defoliation*, in due season.

LEAF-LIKE, (*foliaceous*) having the texture and form of a leaf.

LEGUME, *legu'men*. A pod, without a longitudinal partition, with it enclosed seeds attached to one statue only; as the pea. Those with tranverse partitions are usually called *loments*.

LENGTH and **BREADTH**. When applied to bivalve shells, *length* is measured from the beak or cartilage to the margin below, and *breadth* is taken in a transverse direction at the length.

Lentic'ular, *lenticula'ris.* Lentilform. It is applied to a kind of glandular roughness on the surface of some plants. They are brown oval spots found upon the bark of many plants especially willows; they indicate the points from which roots will appear if the branch be placed in circumstances favorable to their production. Form of a convex lens.

Lepan'thium. Used as a substitute for some kinds of nectary by Nuttall, De Lamark, &c.

Lep'rous. Covered with peltate or sub-peltate scales, mostly white or whitish. Patches of Lichens often give woody plants a leprous appearance.

Li'ber. The innermost layer of the bark, or the last year's deposite. Smith.

Lib'era. Free, not adnate, or attached.

LI'CHENES. The fifth order of the class Cryptogamia. It includes the greenish, brown, yellow, red, grey, &c. patches on old fences, stones, trees, &c.; also some grey fibrous moss-like bodies.

Ligament-perforation. A perforation through the shell of the *anomia* genus, by which it is attached to rocks, &c.

Light. Various motions and inclinations of plants prove the effect of light upon them. Trees present their leaves outward in quest of light, because it is darkest in the centre. Plants in a green-house all present the upper surfaces of their leaves towards the enlightened side of it. Most compound flowers follow the sun through the day. Plants deprived of the light, lose their green hue; as potatoe tops grow-in a dark cellar.

Lig'ula. A strap or strap-form organ. It is generally applied to the membrane or stipule at the top of the sheath of a grass-leaf.

Lig'ulate, *ligula'tus.* That kind of floret, in some compound flowers, which consists of a single strap-like petal, which becomes tubular at the base only; as all the florets in a dandelion, and the ray florets in a sunflower.

Lilia'ceous. A corol with six petals spreading gradually from the base, so as altogether to exhibit a bell-form appearance.

Limb, *lim'bus.* The broad spreading part of the petal of a monopetalous corol. When applied to shells, it means the whole circumference or outlines of them.

Line, *li'nea.* The breadth of the crescent at the root of the finger nail. Twelfth part of an inch.

Lin'ear, *linea'ris.* Continuing nearly of the same breadth throughout most of the extent. Linear leaves always, or with very few exceptions, become narrowed or pointed at one or both ends.

Lin'eate, *lineatus.* Marked with lines. Striated.

Lin'guiform. Tongue-like. Thick, fleshy, linear, blunt at the end.

Lip, or lipped. See labiate. When applied to univalve shells, it means the outer expanded part of the opening.

Lirel'lae. See clefts. Linear shields, such as are found in Opegrapha, with a channel along its middle.

Little, *(exiguus.)* Applied to whatever is less than similar or analagous parts or things are, generally.

Littora'lis. Growing on the sea-coast; also on the shores of rivers.

Liv'idus. Livid. Dark grey, inclining to violet; like bruised eyes.

Lobe, *lo'bus.* Divisions which are rounded, or parted by rounded or curved incisions. Sometimes it seems to be applied to cases where it has nothing to distinguish it from a segment cut off by a cleft incision, except by its being larger.

Lo'bed, *loba'tus.* Divided into lobes. Deeply parted, with the segments distant or spreading, and large.

Loculamen'tum. See cell. Cavities containing seeds.

Loc'ulus. The little cell of an anther, which contains pollen, is used by Acharius to express a filamentous branched thallus.

Lo'ment, *lomen'tum.* A legume pod with transverse partitions. This term is generally applied to the legumes in the natural order Lomentacæ.

Longifol'ius. Long-leaved. See relative proportions.

Lon'gus. Rather long. *Longis'simus.* Very long.

Loose. Open, not compact. Of a soft, cellular texture, as piths.

Lo'res. The naked lines or spots on a bird's head, between the eyes and the base of the bill.

Lo'rula. The long threads of Usnea. This lichen, so common on trees, is erroneously called moss by most people.

Low, (humils.) Plants particularly small, but much smaller than kindred species.

Lu'cidus. Bright shining. Nearly the same as nitidus.

Lu'nulate, *Lu'nulatus.* Shaped like a *crescent*, new moon.

Lu'nule. Half-moon-like depression just below the beak of a bivalve shell. It is anterior or posterior, according to the slope it is on. See slope.

Lu'rid, *lu'ridus.* Of a palish, dull, deathly color. Most plants with lurid petals, are more or less poisonous; as tobacco, henbane, thorn-apple.

Lus'tre. The peculiar appearance of reflected light, as presented by a mineral.

Lutes'cent, *lutes'cens.* Approaching to a yellow color.

Lu'teus. Yellow. Being sometimes yellowish.

Luxu'riant, *luxur'ians.* See full-flowered. Over growth.

Ly'rate. *lyra'tus.* Pinnatifid, with the divisions at the apex largest.

Ly'rate-pin'nate. Pinnate, with the odd terminal leafet largest.

M.

Macula'tus. Spotted, dotted, punctured.

Mail'ed. Covered with a hard substance resembling armour.

Male. Staminate, as used by some.

Man'dibles. The upper jaw of a bird's bill. It is also applied to the horizontal pincers attached to the mouth of some insects.

Man'icate, when hairs are interwoven into a mass that can be easily separated from the surface. Muff-like.

Ma'ny. Whenever there are more than are usually numbered of that kind; as we say, 1-seeded, 2-seeded, 3-seeded, 4-seeded, many-seeded.

Marces'cent, *marces'cens*, or *mar'cidus.* See withering.

Mar'ginated, *margina'tus.* Having a margin differing in some measure from the disk.

Mar'gin, *mar'go.* The circumference or edge. See border. The circumference of a shell.

Mariti'mus. Growing naturally near the seaboard. It may be extended several miles from the water.

Mas'culus. Staminate, as used by some.

Mat'rix. Gangue. The mineral immediately embracing an ore, within a vein in a rock.

Matu're, *matu'rus.* Full-grown, but not entered upon a state of decay.

Meal'y, *(farinosus.)* Covered with a sort of white scurfy substance, having the texture of flower in mass; as the albumen of wheat.

Meas'ures. Proportion between parts is better than any measure. But when measures are adopted, they should be taken from parts of the hand and arm; because the parts of plants vary about as much as the hand; and in adopting these measures, the same allowance should be made.

1. *Line*, the crescent at the root of the nail. About one twelfth of an inch. 2. *Nail* (unguis.) Length of the nail. About half an inch. 3. *Inch* (pollex.) Length of the first joint of the thumb. 4. *Palm.* Breadth of the four fingers. About three inches. 5. *Short span* (spithama.) Distance between ends of thumb and fore-finger. About seven inches.

Long -span (dodrans). Distance between ends of thumb and little finger. About nine inches.

Foot (pes.) Distance between the point of the elbow and the second joint of the thumb. About twelve inches.

Cu'bit (cub'itus.) Distance between the point of the elbow and of the middle finger. About 18 inches.

Arm (brachium.) Distance between armpit and the end of middle finger. About 24 inches.

Fathom (orgya.) Distance between the ends of the middle fingers, when the arms are extended.

Medic'inal, *medicina'lis.* Plants possessing principles sufficiently active to entitle them to a place in the *materia medica.*

Me'dius. In or near the middle. Middling.

Medul'la, pith, medullary, *(medullosus.)* Filled with spongy pith. See pith,

Medullary rays, (silver grain.) Radiating plates, extending from the centre of trees to the periphery; very beautiful in oak trees, &c.

Medullary sheath, surrounds the pith.

Mellif'erous, *mellif'era.* Producing or containing honey.

Melli'go. Honey-dew on leaves; particularly walnut leaves.

Membrana'ceous. Made up apparently of the two plates of the cuticle, without any cellular integument between them. Nearly transparent, very thin and colourless.

Membrane and **fibre** combined. Fibres twisted spirally, adhering to a spheroidal or angular membrane, and often anastomosing irregularly, without the spires touching each other. Membranous cellular tissue is that in which the sides consist of membrane only, without any trace of fibre: it is the most common, and was, till lately, supposed to be the only kind that exists. This sort of tissue, membranula, is to be considered the basis of vegetable structure, and the only form indispensable to a plant.

Me'thod, *metho'dus.* A mode of arranging plants in classes, orders, &c. **Tournefort's method** divides plants into *herbs* and *trees.* The herbaceous plants are divided into 17 classes. Fourteen of these are distinguished by the *form* of the *corols;* as 1. *Infundibiliformis.* 2. *Personate,* &c. The other 3 classes are *apetalous*, and distinguished by *having stamens, but no apparent flowers nor apparent seed.* The tree kinds are divided into 5 classes.

Metres of the French; are

Millemetre	—.03666+	of an inch.
Centimetre	—.3666+	of an inch.
Decimetre	3.666+	inches.
Metre	36.66+	inches.

Mid'rib. The main or middle rib of a leaf running from the stem to the apex.

Milia'ris. In the form of millet seed. Minute spherules.

Minia'tus. Scarlet, vermillion color. Sometimes red.

Minutis'simus. Extremely small or minute; unusually small.

Missile-tongue. When the animal can thrust the tongue far out of the mouth.

Mi'tre-form. Terminating in two divisions, in some measure resembling a bishop's mitre.

Mola'res. Grinders. Teeth farthest back; double teeth.

Mollus'cous animals. Those that have the medullary masses, in which the sentient principle resides, enveloped in a soft body; as the oyster.

MONADEL'PHIA. (*Monos*, one, *adelphos*, brother.) The class having stamens united by their filaments in one set; as hollyhock.

Monadel'phous. Belonging to, or varying into, the class *monadelphia.*

MONAN'DRIA. (*Monos*, one, *aner*, male.) The class which has but one stamen to a flower.

Monil'iform. See granulate. Globular joints of antennae.

Monocar'pous. Bearing fruit but once, and dying after fructification: as wheat.

Monocotyle'dons. Plants whose seeds have but one cotyledon, or if two, then the cotyledons alternate with each other. See cotyledon.

MONŒ'CIA. (*Monos*, one, *oikos*, house.) The class which produces stamens and pistils in different flowers on the same plant; as Indian corn.

Monœ'cious, *monoi'cus.* Belonging to or varying into the class monœcie.

MONOGYN'IA. (*Monos*, one; *gune*, female.) One style or stigma.

Monopet'alous. The whole corol in one piece. Sometimes it is so deeply parted, that it appears to be polypetalous until it is pulled off and closely examined at the base. In most monopetalous corols, the stamens are attached to the tubes. They are divided into bell-form, funnel-form, salver-form, wheel-form, and labiate. When the petals are distinct, a corol is said to be polypetalous: when they are united by their margins it is called monopetalous. But each segment of the latter is truly a colored leaf, united in a whorl: the same rule applies to calyxes.

Monophyl'lous. (*Monos*, one, *phullon*, a leaf.) One-leafed. A calyx all in one piece. All the calyxes in the class *icosandria* are of this kind. They are often so deeply divided that a student may mistake them for polyphyllous, without particular attention.

Monopteryg'ia. See wings. One-winged. Applies to ferns.

Monopyre'nus. Enclosing but one nut or stone: as the peach.

Monosper'mus. One seed to a flower; as wheat.

Monostac'hyos. (*Monos*, one, *stachus*, spike.) Single spiked.

Mon'strous. Plants producing any part different from the same part, when growing wild. As the rose has but five petals in a wild state; but, by rich cultivation in gardens, the stamens are mostly changed to petals. Carnations and peony are examples also.

Monta'nus. Growing most naturally on mountains. Alpine.

Mu'cidus. Resembling mouldiness, or mucor.

Mucous, *mucosus.* Covered with a slimy secretion: or with a coat that is readily soluble in water, and becomes slimy.

Mu'cronate, *mucrona'tus.* Having a rounded end tipped with a prickle; which often appears rather an extension of the midrib.

Multangula'ris. Many-angled. Having several corners or ridges.

Multicapsula'ris. Many-capsuled. Several capsules to each flower.

Multicau'lis. Producing many stems; as the lilac.

Mul'tifid, *multif'idus.* Many-cleft. In many sections.

Mul'tus. Many, in composition; as *multidentatus,* (many-toothed;) *multiflorus,* (many-flowered;) *multilobus,* (many-lobed;) *multilocularis,* (many-celled;) *multipartitus,* (many-parted.)

Mul'tiplex. Many-fold. Having petals lying over each other in two rows.

Mul'tiplied, *multiplica'tus.* See full-flowered. Double flowered.

Multisiliquo'sus. Many pods proceeding from the same point.

Multivalve, *multivalvis.* A glume with many chaffs or valves. Applied to shells it embraces the order, which has more than two shells to each animal.

Mu'niens. Leaves drooping down and hanging over the stem, &c. at night.

Muni'tus. See fenced. Walled about.

Mu'ricate, *murica'tus.* Armed with sharp spines. Covered with subulate prickles.

Muscarifor'mis, (musca, fly.) Formed like a brush or fly-flap, with hairs at one end.

MUSCI, Mosses. The second order of the class *cryptogamia.* All mosses have lids on the capsule.

Mushroom-headed, (*fungiformis, fungiliformis.*) Cylindrical stem, having a rounded, convex, overhanging extremity.

Mut'icus. See awnless.

Mu'tilated, *mutila'tus.* Not producing parts with their full, complete forms.

Mycelia. The rudiments of fungi, or the matter from which fungi are produced.

N.

Nail, *unguis.* Half an inch or the length of the nail of the little finger.

Na'ked. Wanting a covering analagous to that of most plants. As stem without leaves, leaves without pubescence, corol without a calyx, seed without a pericarp, receptacle without chaff, pubescence, &c.

Naked-seed. Lindley says, "As all seeds are matured *ovula,* and, as all *ovula* are originally enclosed within an *ovarium;* it is obvious that naked seeds cannot exist." But by naked seeds Linneus meant, without fruit; as sage-seed. It is to be regretted that writers of high authority should, *so unnecessarily,* make a new application of "*naked seeded.*" For though the new application is correct, a new term should have been used to express it. *Tunic* might be substituted for the pericarps, not formerly so called. For we have only to say without or with a tunic, to convey the idea intended. Though science is injured by too many new terms, it is a greater injury to change the application of long established terms. *Gymnospermous,* has long been applied to the want of fruit in its common acceptation. Now to limit it to the few genera of pines and cycadiae, is unpardonably absurd. Willdenow calls the covering of a seed, not usually called fruit, the tunic. On this authority, I would propose *Achetospermous.* Gr. A, without, *chiton,* tunic, *sperma,* seed.

Na'nus. Dwarfish, vey small.

Nap. See tomentose, Downy, or like fur on a hat.

Napifor'mis Resembling a turnip. Very oblate spheroid.

Na'tant, *nat'ans.* Floating. When the plant is fixed by the root at the bottom and its leaves float on the top of the water, as the pond lily, (nymphæa.) Animals with the faculty of swimming.

Nat'ural his'tory. That department of science, which treats of the productions of nature as they come from the hand of the Creator; without any decomposition or chemical changes.

Nat'ural or'ders. Arrangement of plants according to their natural affinities, or alliances, for the purpose of studying their properties, and vegetable physiology. Linneus made, what he called, the Fragment of a Natural Method. Several of his orders were perfect; and are still retained—as Cruciferae, Umbelliferae, Gramineæ, &c. Jussieu greatly improved upon Linneus. He found all plants to submit to his centigrade. That is, he distributed them into one hundred orders. Great inprovements have been made upon his method. The best now, is probably that of Lindley, of 1835. That is adopted in the annexed system of North American plants. See p. 539.

Navic'ular, *navicula'ris.* See boat-form.

Nay'ant. Floating. When animals float, without the effort of swimming, they are nayant.

NECESSA'RIA, *polygamia.* The fourth order of class syngenesia, which has the disk florets all staminate and the ray florets pistillate.

Neck. The upper part of the tube of a corol. Also the point, or small space, from which the root of a plant proceeds downward and the stem upwards, it is generally just at the surface of the earth.

Necklace-form, (moniliformis, nodosus;) cylindrical or terete, and contracted at regular intervals, resembling beads.

Nectarif'erous. Bearing nectaries. Producing honey.

Nec'tary, *necta'rium.* The part of a flower which secretes honey. It is either a distinct horn, gland, spur, scale, cup, &c., or the claw or some other part of the corol secreting honey. This name is applied to any appendage to the flower, which has no other name.

Needle-form, *(acerosus.)* Linear, rigid tapering into a fine point from a narrow base.

Nemoro'sus. Growing naturally in groves, where the under brush is cleared away.

Nervo'se, nerved, *nervo'sus.* Leaves are nerved, when they have rib-like fibres running from the base towards the apex. In numbering nerves for a specific character, the midrib is counted with the lateral nerves.

Netted, *(reticulatus,)* covered with reticulated lines which project a little.

Neutral. Having neither stamens nor pistils, consequently barren: as the ray-florets of the sun-flower.

Nic'titant membrane. A semi-transparent membrane, which covers the eyes of some animals at pleasure, as frog.

Ni'dulans. Nesting. when seeds are placed in cotton, as in a nest.

Ni'gricans. Blackish, sooty.

Ni'gro-cærul'eus. Dark-blue.

Ni'sus-formati'vus. That principle of vital energy, which tends to restore lost or injured parts.

Nit'idus. Glossy, glittering.

Niv'eus. Snow-white.

Node, *No'dus.* See knot. . Used by Barton for internode.

Nod'ule. A spheroidal mass of any mineral substance.

No'men, name. See generic name and specific name.

Nor'mal, *(normalis)* ordinary structure in nowise departed from; elementary form.

Nu'bilus. Grey and white, cloudy. Resembling cumulous clouds, or heaped.

Nucamen'tum. See ament. Elongated strobile.

Nu'ciform. Resembling a nut.

Nuc'leus. Nut or kernel. The inner seed or kernel is truly the nucleus; and its hard shell is the putamen. But the whole including both putamen and its outside covering are the fruit. It is also a distinct cartilaginous body, coming out entire from a proligerus apothecia, and containing the sporules; or it is the central part of a perithecium. From some recent observations it appears that the nucleus has three coats, the outer called the *tercine*, the next the *quartine*, and the most interior the *quintine.* The outer sacks are two, *primine*, and *secundine.*

Nucula, one of the apothecia of Chara, sessile, oval solitary, spirally striated, with a membranous covering, and the summit indistinctly cleft into five segments, containing sporules.

Nudius'culus, *Nudus.* Nakedish. naked.

Nu'tant, *Nu'tans.* Nodding. When above half of whatever it is applied to, droops or hangs down. See *pendulus.*

Nuta'tio. The various inclinations of the parts arising from the effects of the sun's rays.

O.

Ob, ob'verse. Reversed or inversed. Often combined with ovate, cordate, &c. as
obcordate, inversely heart-form.
OBCON'IC. Conic with the point, or apex, downwards.
OBCOR'DATE. Heart-form, with the apex next to the stem, or place of insertion.
OBLANCE'OLATE. Lanceolate with the base the narrowest.
OBLI'QUE, *obli'quus.* A position between horizontal and vertical; or between perpen-
dicular and the plane of the base. It is also applied to leaves, petals, calyxes, &c.
which are, as it were, cut obliquely; or whose bases are shorter on one side than
on the other.
OBLONG, *oblon'gus.* Having the length twice or more than that of the breadth, with
the opposite sides somewhat parallel.
Oblongius'culus. Somewhat oblong.
OBO'VAL, *obova'lis.* If it differs at all from obovate, it must be more nearly oval—
having the ends nearer equal in width.
OBO'VATE. Ovate, with the narrowest end towards the stem or place of insertion.
OB'SOLETE, *ob'soletely, obsole'tus, obso'lete.* When teeth, notches, serratures, &c. are
obscure and appear as if worn out.
OBTU'SE. See obtusus, rounded.
Obtu'se-acumina'tus. Blunt with a small point.
Obtu'sus, OBTUSE, *obtusius'culus.* Obtusish. Ending bluntly, or in an apex more or
less rounded.
OB'VOLUTE, *obvolu'tus.* A term in foliation: applied to leaves where two opposite
ones are conduplicate, with one edge of each leaf between the edges of the other.
OCCIP'ITAL. Pertaining to the back part of the head.
OCCELL'ATE. Eye like spots, as on the wings of some butterflies.
O'chrea. A cylindric sheath or stipule. It is applied to the membranaceous stipules
of most of the species of Polygonum; also of some species of Cyperus.
OCTAN'DRIA, (*Octo,* eight; *aner,* male.) Eighth of the Linnean classes, with 8
stamens to a flower.
OCTAN'DROUS. Belonging to, or varying into, the class *octandria.*
OCTOGYN'IA (*Octo,* eight; *gune,* female.) The eighth order of a class, it having
8 styles to a flower, or sessile stigmas.
Octo, eight in composition: as octofidus, 8-cleft; octolocularis, 8-celled; octopetalous,
8-petalled: octophyllus, 8-leaved.
Odora'tus. Scented, odorous.
Officina'lis. Such plants as are sold in the shops for some use, either in medicine or
the arts.
OFF'SETT is a short lateral branch in some herbaceous plants, terminated by a cluster
of leaves, and capable of taking root when separated.
OID, *Oi'dos.* When this terminates a word it imports resemblance to the part or
plant to whose name it is annexed. Petaloid, resembling a petal; thalictroides,
resembling a Thalictrum, &c.
Oligosper'mus. Few-seeded.
OLEAG'INOUS (*oleagino'sus;*) fleshy in substance, but filled with oil.
Ol'igos (few) means that the number is small, not definite.
One-si'ded. Flowers, &c. on one side of a stem, &c.
OPA'QUE, *opa'cus.* Neither transparent nor shining.
OPER'CULATE, *opercula'tus.* Having a lid, as mosses.
Oper'culum. The lid or covering on the capsule of mosses. This is generally
covered by the calyptre when young. After the calyptre is gone and the seeds are
ripe, the lid falls also. This term is also applied to the covering of other capsules,
resembling the lids of mosses. When applied to Conchology, it means a cartilagi-
nous, crusty, or shelly appendage to the animal by which it closes its shell after its
body is drawn into a univalve shell.
OP'POSITE, *oppos'itus.* Standing at the same height with base against base, on diffe
rent sides of a stem.
Oppositifol'ius. Set opposite to the base of a leaf; as some peduncles and stipules are
placed.
Oppos'ite-pinna'tus. Leafets of a pinnate leaf set opposite to each other.
Orbicula'ris. Nearly circular.
ORBS. *Orbil'lae.* That kind of receptacle of lichens, which is flat, orbicular and

dilated, of the substance of the frond, terminal, peltate, without a border, but often surrounded with radiating shoots. The membrane, or disk, under which the seeds are lodged, is smooth, nearly of the color of the frond. Spurious orbs, bordered like shields or spangles when young, are sometimes found in the genus *cornicularia*. Smith.

Orchid'eous co'rol. Like the orchis; having 4-arched petals, and the fifth longer.

Or'gya. Fathom. See measures.

Ori'fice. Any hole or opening into a capsule, corol, &c.

Ornithol'ogy. That departmnnt of zoology which treats of birds.

Ostio'lum (*os, oris*, mouth.) The orifice of the perithecium of sphaeria. A little mouth.

Ov'al, *ova'lis*. The length exceeding the breadth in any proportion, with the two ends of an equal breadth, curvature and form, or nearly so; the sides curving from end to end.

Ovary. *Ova'rium*. The germ or base of the pistil. A hollow case, enclosing ovula; it contains one or more cavities, called cells. It is now believed to be a folded leaf, or whorl of leaves, whose edges grew together while in the state of estivation or bud. These edges become thickened placenta, which become granulated, and in due time are ovula, forming seeds with their tunics. See Chalaza.

O'vate. Egg-form. The length exceeding the breadth in any proportion, the end next to the stem, exceeding the other in breadth; the sides curving from end to end.

Ovi'parous. Animals produced from eggs, as birds, fish, &c.

Ovoi'dal, (*ovum*, egg, *oidos*, appearance) resembling an egg, in general form, or the longitudinal section of it.

Ovule. *Ov'ulum*, is a body borne by the placenta and destined to become a seed. It is never furnished with a stigma; but receives the fertilizing pollen by way of the stigma of the carpel through the placenta to which it is attached by the hilum. See Chalaza.

P.

Pa'gina. The surface of a leaf. The upper surface is *pagina superior*; the lower surface, *pagina inferior*.

Pal'ate. A prominence, process or elevation in the lower lip of a labiate corol, which tends more or less to close the throat.

Palea'ceous, *palea*, chaffs. See chaffy.

Palma'ris. Hands breadths, 3 inches.

Pal'mate, *palma'tus*. Divided deeply and spreading, so as to resemble the hand with spread fingers. When the divisions are very narrow, and almost down to the stem of a leaf, it is called *pedate*, from its supposed resemblance to a bird's foot. Some pedate leaves are hardly connected at all at the base, and almost run into the compound *digitate* leaf.

Pal'pi. Feelers. Processes or fibres attached to the mouths of insects.

Palus'tris. Growing naturally in swamps and marshes.

Pandurifor'mis. Guitar-form. Oblong, broadish near the base, and contracted on the sides.

Pan'icle, *panic'ula*. When the peduncles along the sides of the main peduncle of a raceme are divided, it takes the name of panicle, as oats. But if it is still in in a close, compact form, it is called a *thyrse*, as the lilac, grapes.

Pan'icled, *panicula'tus*. Disposed in the form of a panicle; or bearing panicles.

Papiliona'ceous, (*Papilio*, a butterfly.) Butterfly-form; as the pea flower. When complete, it consists of the *banner*, the upper petal, which generally spreads over above the others; the *wings*, the two side petals, next below the banner; the *keel*, the lower boat-form petal, generally enclosing the stamens and pistil. It is sometimes called the *pea-bloom* flower.

Papil'la. Fleshy process or points on vegetables and animals.

Papillo'se, *papillo'sus*. (*Papilla*, a nipple.) Covered with fleshy points or protuberances. See verrucose.

Pappose, *pappo'sus*. Bearing pappus or aigrette, as thistles.

Pap'pus. See aigrette. Seed down of thistles, &c.

Papulo'se, *papulo'sus*. (*Papula*, a pimple.) Pimply, bladdery or blistered.

Papyraceus, (*chartaceus.*) Having the consistence of writing paper, and quite opaque.

Parabol'ic. Conic, with the top rounded off, considerably below where it would terminate in the apex, if completed in the conic form.

Par'allel, *parallel'lus.* Two lines or opposite sides, running nearly equal distances from each other. The opposite edges of a leaf are parallel when the leaf is linear, as of grasses.

Parasit'ic. Drawing support from another plant. Growing out of another, as the dodder.

Paren'chyma. A succulent vegetable substance; as the thick part of leaves between the opposite cuticles; the substance of the pith of herbs, the pulpy part of apples, &c.

Pari'etal, *parieta'lis.* Walled around. Having an enclosing or encircling ring. Any thing is said to be parietal, which arises from the inner lining or wall of an organ. The placenta is parietal, when it originates in the *inner* lining of the fruit, and forms a kind of side-wall about the ovules, as in the germ of the violet. See Fig. 5, p. 14.

Par'ted, *partitus.* Deeply divided, almost to the base.

Par'tes prima'riae. The three primary parts of a vegetable are: 1. The *root*, or descending part. 2. The *herbage*, or ascending part except. 3. The *fructification*, comprising the flower and fruit.

Par'tial, *partia'lis.* Particular, not general. Applying to an entire part of a general whole. See general.

Par'tible, *partib'ilis.* Easily separating into parts. Bipartibile, into two parts; tripartibile, into three parts, &c.

Parti'tion. The membrane, &c., which divides pericarps into cells. It is *parallel* when it unites with the valves, where they unite with each other. It is *contrary* or *transverse*, when it meets a valve in the middle, or in any part not at its suture, or juncture with another.

Patellifor'mis. Knee-pan-like. Thick concavo-convex, round, with the convex surface below.

Patel'lula. See spangles: orbicular sessile shields, surrounded by a rim, which is part of itself, not a production of the thallus; as in Lecidea.

Pa'tens. Spreading so as to form a moderately acute angle; considerably less than a right one, or a square.

Patentis'simus. Spreading almost to a right angle; very spreading.

Pat'ulus. Somewhat spreading, open, loose.

Pau'ci. Few in number. Used in composition as *pauciflorus*, few-flowered; *paucifolius*, few-leaved.

Pe'a-bloom. See papilionaceous.

Pear form, (pyriformis.) Differing from turbinate in being more elongated.

Pec'tinate, pec'tinated, *pectina'tus.* So finely pinnate or pinnatifid as to resemble the teeth of a comb.

Pec'toral fins. A pair growing on each side of the thorax, or breast.

Peda'lis. About a foot high.

Pe'date, *pedatifid*, *pedatus.* Finely palmate. Bird-foot-like.

Ped'icel, *pedicellus.* A partial pedundcle of an aggregate.

Ped'icelled, pedicellate, *pedicella'tus.* Having a pedicel.

Pe'duncle. Pedunculus. Flower stem, not radical.

Pe'duncled, *pedunculatus.* Having a peduncle, not radical.

Peduncula'ris. Appertaining to, or fixed on, a peduncle.

Pell'icle, *pellicula.* A thin, membrane like substance. The close covering of some seeds; sometimes it is a little mucilaginous or downy.

Pellu'cid. Transparent, translucent, or limpid.

Pel'ta. See targets. A flat shield without any elevated rim, as in the genus Peltidea.

Pel'tate, *pelta'tus.* Having the petiole attached to the under side of the leaf. In all cases of leaves and flat stigmas, when the petiole or style is attached to the disk instead of the margin, they are peltate; as the leaf of the nasturtion, and the stigma of the yellow water lily.

Pen'dant. Hanging down.

Pen'dulous. When the whole of the part droops, or hangs down.

Pen'cil-form, *pencil'lifor'mis.* Shaped like a painter's pencil, or little round paint-brush.

Pennifor'mis. When the ribs are disposed as in a pinnated leaf, but confluent or uniting at the point.

PENTAGYN'IA. (*Pente*, five, *gune*, female.) Five styles.

PENTAN'DRIA. (*Pente*, five *aner* male.) Five stamens.

Pentan'drous. Belonging to, or varying into, the class *pentandria*.

Penta, (five,) is used in composition; as *pentacoccus*, 5-seeded; *pentagonal*, 5-cornered; *pentapetalous*, 5-petalled; *pentapterygia*, 5-winged; *pentaphyllous*, 5-leaved, &c.

Peregri'nus. Foreign, strange, wandering.

PEREN'NIAL, *perennis.* Continuing more than two years.

PER'FECT FLOWER. Having both stamens and pistils.

PERFO'LIATE, *perfoliatus.* Perforating a leaf. Having the stem running through the leaf. But the leaf is not formed by the union of opposite bases, as in the *boneset*, (eupatorium;) for in this case the leaves are connate; but they are often called perfoliate. It is applied to antennae of insects when the main thread passes through the joints.

PER'FORATE, Per'forated, *perfora'tus.* Having holes, or transparent spots, as if pricked through. Punctate may differ in presenting spots like points, which are not holes. Pertuse perhaps is synonymous with perforated.

PERIANTH, *perian'thum.* (*Peri*, about, *anthos*, flower.) That kind of calyx, which is immediately adjoining the corol, stamens and pistil, or to such of these organs as are present. It is *inferior*, when it grows out from below the germ. It is superior, when it grows on the germ.

PER'ICARP, *pericarpium*,. (*Peri*, about, *karpos*, fruit.) Seed-case. Any bag, shell, pod, pulp, berry or other substance, enclosing the seed. It is (in some cases, as in the peach,) divided into: *epicarp*, the external tegument; *sarcocarp*, the fleshy eatable part; *endocarp*, (putamen,) the true shell: and the *real seed*, usually called the meat; as peach meat, almond meat, walnut meat. Many seeds have a deceptive appearance, respecting a covering. Gray mentions the pappoose-root plant, (Leontice thalictroides) as a case. The seed is above on the end of a thickened peduncle; but it had a caducous tunic, which might have been seen by close watching.

PER'ICHETH, *perichæ'tium.* (*Peri*, about, *chaite*, rest.) An involucre surrounding the base of the peduncle of mosses, among the leafets, but differing from them in form. See calyptre.

Peridi'a. The membrane by which the sporules are immediately covered.

Peri'dium. A round membranous dry case, enclosing the seeds in some angiocarp funguses; it is also a kind of sporidia; sporidiolum is its diminutive.

Perigo'nium. perigone. Sometimes substituted for perianth if the floral envelopes are of such a nature that it is not obvious whether they consist of both calyx and corol, or of calyx only, they receive the name of perianthium or perigonium.

PERIGY'NOUS, *perigynous.* Growing upon some body that surrounds the ovarium; as the calyx is perigynous, as well as the corols and stamens it supports, when it adheres to the ovarium, (the germ.)

PER'ISPERM. A substitute for pericarp. Nuttall.

PERISPOR'IUM. Capsule. Nuttall uses it to express a chaffy covering to seed.

Peristom'ium. The fringe teeth or membrane, around the mouth of the capsule of mosses, under the lid.

Perithe'cium. A perianth-like organ surrounding the seed-cases of lichens, or capsule of mosses and fungi. Used to express the part which contains the reproductive organs of Sphaeria, and its co-adnates.

PERITRO'PAL, *peritropus.* Directed from the axis to the horizon.

PER'MANENT. Any part of a plant is permanent, which remains longer compared with other parts of the same plant, than is usual for similar parts in most plants. As the calyx of the quince remains on the end of the fruit, till it ripens. Persistent. Remaining.

PERO'NATE, (defence against cold.) Laid over with a woolly substance, ending in a sort of meal; as on the stipes of some fungi.

Persis'tens. Persistent. Not falling off; but remaining green or growing until that which bears it is wholly natured. See permanent and ring.

PER'SONATE, *persona'tus.* See labiate. Muffled lipped flower.

PERTU'SE, *pertu'sus.* Punched. See perforated.

PE'TAL, *pet'alum.* The colored leaf or leaves of the corol. The petal of a monopetalous corol is divided into the *tube* and *limb*. Each petal of a polypetalous corol is divided into the claw and lamina.

PE'TAL-FORM, *petalifor'mis.* Resembling a petal in shape, or texture.

Petali'nus. Attached to, or being part of, a petal.

PE'TALOID, *petaloi'des.* Having organs or parts resembling petals.

PE TIOLE, *petio'lus.* The footstalk of a leaf, on the part which connects the lamina with the stem. Leaves which have no footstems are *sessile.*

PETIOLA'TE, pe tioled, *petiola tus.* Having a petiole.

Petiolu lus. A partial petiole which connects the leafet to the main petiole; as the butternut.

PHENOG'AMOUS, (of *phaino*, to shew.) Having the stamens and pistils sufficiently apparent for classification. Applied to all plants not included in the class cryptogamia.

Phœni'ceus. Purple, dark-red. Ancient purple.

Phycom ater. The gelatine in which the sporules of byssus first vegetate.

PHYTOL OGY. (*Phuton*, a plant, *logos*, a treatise or discourse.) The science which treats of the principles of vegetables. It is nearly synonymous with the *physiology of vegetables..*

Pi'ceus. Blueish-black, resembling dark pitch.

Pi'leus. The hat of a fungus. The top and most spreading part. It may be without stype, and thus constitute the whole ascending part. It always contains the sporules.

Palid ia. See puffs. Orbicular, hemispherical shields, the outsides of which change to powder in Calycium.

PILIF'EROUS. Bearing hairs.

PIL'LAR. Columella. The column of a univalve shell.

PIL OSE, *pi'lo sus.* Hairy. Having distinct straightish hairs. Pappus is pilose, when each hair has lateral branches. See aigrette.

Pil us. A hair. An excretory duct of a bristly form, leading off a fluid. See sting.

PIM PLED. See papulose. Covered with minute tubercles or excresences, of uneven size, and rather soft.

PIN NATE, *pinnatus. pinna.* A wing. Winged or feathered. Leaves are pinnate, when distinct leafets are arranged along opposite sides of a simple petiole, See bipinnate and tripinnate.

PINNAT IFID, *pinnatif idus.* Cut-winged. Leaves are pinnatifid, when, instead of leafets as in pinnate leaves, segments or divisions of a leaf are along opposite sides of the midrib. Pinnate are compound, but pinnatifid are simple; because the divisions never reach the midrib. When pinnatifid leafets are on a pinnate leaf, is is called *pinnate-pinnatifid.*

PIS'TILLATE FLOW'ER. Having pistils only without stamens; as the flower of the fertile cucumber.

PIS'TIL, *pistil lum.* The central organ of most flowers. It generally consists of the germen, style and stigma. But the style is frequently wanting; then the stigma is seated on the germ, or sessile. The stigma receives pollen from the anther, and in some manner not yet discovered, fertilizes the germ.

Pisti'lif'erous. See pistillate. Bearing pistils.

PITH. The spongy substance in the centre of the stems and roots of most plants. A cylindrical or angular column of cellular tissue arising at the neck of the stem and terminating at the leaf-buds. See Medulla. This is encased in a medullary sheath.

PITS, (scyphellæ.) That kind of receptacle of lichens, which consists of open, cup-like, naked, white or yellow little spots, on the under side of the frond, which is generally downy. They are at first immersed, globose, minute dots, which at length burst with irregular margins, and discharge a powder.

Placen ta. Fleshy receptacle or mass produced by the infolded edges of the leaves, which grow together while in the state of estivation or bud. It is the organ or body to which the seed is attached by its hilum by means of a funicle. It is always within a pericarp when the seed has a pericarpal covering. When several carpels are contained in the same germ, in a united, or syncocarp, state, all the placenta of all the carpels unite in a central mass, forming a columnella.

PLACENTA'TION. The disposition of the cotyledons in the germination of the seeds.

PLAIT ED. Folded somewhat like a fan, when nearly full spread. In foliation it is more closely folded.

PLA'NO-CON'VEX. Convex or roundish on one side and flat the other.

PLANT. Any substance growing from seed. As tree, grass, puff-ball, mould, moss, frog-spittle.

Plica'tus. See plaited. Folded like a fan.

Plumo'se, *pap'pus*, Feather-like down. When a hair has other hairs arranged on opposite sides of it. Applied to a mineral having fibres diverging from a line or kind of midrib, as plumose mica.

Plu'mula, or gemmula, is the nascent *ascending* axis. That part which developes downwards is called the *descending* axis or root. That upwards is called the *ascending* axis or stem. And the part from which these two axis start, is called the *collet* or neck.

Poc'uliform (poculiformis;) cup-shaped, with a hemispherical base and an upright limb.

Pod. That kind of pericarp which is composed of two valves with the seeds attached to one or both sutures, or a longitudinal partition at the edges immediately adjoining the sutures. The pod is either a *legume* or *silique.*

Pode'tia. The peduncles of lichens or the stalk-like elongations of the *thallus*, which support the fructification in Cenomyce.

Point'letted (apiculatus;) terminating abruptly in a little point.

Poin'tal. See pistil. Central organs of a flower.

Pois'ers. Globules on slender stems under the wings of some dipterous insects.

Poisonous veg'etables. Persons of all descriptions have frequent occasion to make some use of plants, when they are not in a situation minutely to investigate their nature and qualities.

The following rules for extemporaneous examinations may be of some use:

General Rules for avoiding Poisons.

Plants not poisonous.

1. Plants with a *glume* calyx, never poisonous. As wheat, Indian corn, foxtail-grass, sedge-grass, oats.

2. Plants whose stamens *stand on the calyx*, never poisonous. As currant, apple, peach, strawberry, thorn. Some of them contain prussic acid in considerable quantities, sufficient to render some parts of them, at least, poisonous.

3. Plants with *cruciform* flowers, rarely if ever poisonous. As mustard, cabbage, water-cress, turnip.

4. Plants with *papilionaceous* flowers, rarely if ever poisonous. As pea, bean, locust tree, wild indigo, clover.

5. Plants with *labiate* corols, bearing seeds without pericarps, never poisonous. As catmint, hyssop, mint, mother-wort, marjoram.

6. Plants with *compound* flowers, rarely poisonous. As sunflower, dandelion, lettuce, burdock.

7. Plants bearing *strobiles* are never poisonous. As pines, cedars, &c.

8. *Monodelphous*, or *columniferous* plants, are never poisonous. As hollyhock, mallows, geraniums, &c.

Poisonous Plants.

1. Plants with 5 stamens and one pistil, with a dull colored *lurid* corol, and of a nauseous sickly smell, always poisonous. As tobacco, thorn apple, henbane, nightshade. The degree of poison is diminished where the flower is brighter coloured and the smell is less nauseous. As potatoe is less poisonous, though of the same genus with nightshade.

2. *Umbelliferous plants* of the aquatic kind, and of a nauseous scent, are always poisonous. As water-hemlock, cow parsley. But if the smell be pleasant, and they grow in dry land, they are not poisonous. As fennel, dill coriander, sweet-sicily.

3. Plants with *labiate* corols and seed in capsules, frequently poisonous. As snap-dragon, fox-glove.

4. Plants from which issues a *milky juice* on being broken, are poisonous, unless they bear compound flowers. As milk-weed, dogbane, euphorbium.

5. Plants having any *appendage* to the calyx or corol, and twelve or more stamens, generally poisonous. As columbine, crowfoot, nasturtion, monkshood, hellebore.

Most general rule.

Plants with few stamens, not frequently poisonous, unless they are in umbels; but if the number be twelve or more, and the smell nauseous, heavy and sickly, the plants are generally poisonous.

Note. Many plants possess some degree of the narcotic principle, which are still by no means hurtful. The roots of some are wholesome, while the herbage is poisonous; as parsnips, potatoes, &c.

Pollen. Masses of minute molecules of a fertilizing farina-like substance, produced in the anthers of stamens. When the masses come in contact with moist stigmas, they explode and shed a fine fertilizing aroma-like smoke or vapor, upon the stigmas. On being viewed through a magnifier, they are found of various forms. In the sunflower, it is a prickly ball; in geranium, perforated; in comfrey, double; in mallows, a toothed wheel; in violet, angular; in daffodil, kidney-form, &c. From recent experiment and observation by Elliott, Brongniart, Brown, and others, it may be asserted as follows: After grains of pollen have lain for some hours on a moist stigma, they open at a point on the surface, and protrude an exceedingly slender tube, which extends down into the stigma, and, passing along between the cellules, enters the placenta. They have been traced to the foramen of the ovule; when it is curved so as to be near the *chalaza*. The œnothera biennis is said to be a suitable plant for this experiment. See Gray, p. 210.

Pollin'ia. Rolls or masses of pollen, not included in cells of anthers of the common form and texture; as of the orchis, asclepias, &c.

Pollinif'erous. Bearing pollen.

POLYADEL'PHIA. (*Polus*, many; *adelphos*, brother.) See omitted classes, page 10.

Polyadel'phous. Belonging to, or varying into, the class polyadelphia.

POLYAN'DRIA. (*Polus*, many, *aner*, male.) The Linnean class, with over ten stamens to each flower, growing on the receptacle.

Polyan'drous. Belonging to, or varying into, the class *polyandria*.

Polycarpous, (sychnocarpous.) Having the power of bearing fruit many times without perishing; as perennial and woody.

Polycotyled'onous. Plants with more than two cotyledons. See cotyledon.

POLYGA'MIA. (*Polus*, many; *gamos*, marriage.) Many unions. The name of the twenty-third class, as established by Linneus. It comprises all plants which have some perfect flowers, and others which are staminate and pistillate, or both kinds. This class is divided into three orders. 1. *Monœcia*, having perfect flowers, and either staminate or pistillate ones or both on the same plants. 2. *Diœcia*, having perfect flowers on some plants, and either staminate or pistillate flowers on others, of the same species. 3. *Triœcia*, having perfect flowers on some plants, staminate on others and pistillate on others of the same species. This class, like the eighteenth, is abolished by Persoon and others, and the plants under it distributed among the other classes. The fig comes most perfectly under this order.

Polyg'amous. Varying into, or inclining to, the class *polygamia*.

Poly (of *polus*, many) is used in composition as in *polygonus*, many-cornered; *polyprenus*, many nuts; *polysperma*, many seeds; *polystachis*, many spikes.

POLYGYN'IA. (*Polus*, many; *gune*, female.) The order of Linnean classes which has ten or more styles (or stigmas, if styles are wanting) to each flower.

Polymor'phous. Presenting various forms and appearances.

Polypet'alous. Many-petailed. If the corol consists of more than one petal, it is polypetalous.

Polyphyl'lous. Many-leaved. A calyx of more than one distinct piece, is polyphyllous. Polysepalous is now substituted.

Pome, *po'mum.* A pulpy pericarp without valves, which contains within it a capsule. See *berry*, and note the difference. Apples, quinces, &c., are pomes.

Pomif'erous, Bearing pomes, or apple-like fruit; as pears and plums.

Po'rous, *poro'sus.* Full of holes, cellules, or tubular openings.

Porrec'tus. Lengthened out, stretched, straitened.

Posterior sloped. See slopes.

Powdery, (*pulverulentus.*) Covered with fine bloom or powdery matter.

Præ'cox. Rare-ripe. Coming to maturity early in the season. Flowering before leafing. A forward child, not sound.

Præmor'se, *Præmor'sus.* Bitten off. Terminating bluntly, as if bitten off; as the root of the pedate or birdfoot violet.

Pras'inus. Green, like a leak.

Praten'sis. Growing naturally in meadow land.

Prehen'sile. The tail of an animal, or other limb, formed for coiling around other bodies for the purpose of holding on by them.

Prick'le, aculeus. A sharp process fixed to the bark only, not to the wood; as on the raspberry, rose, barberry; they are rigid, opaque, conical processes, formed of masses of cellular tissue, and terminating in an acute point. They may be, not improperly, considered as very compound, indurated hairs. They have no connection with the woody fibre.

Prismat'ic, *prismat'icus*. Linear, with several flattish sides. A cylinder with flat sides.

Probos'cides. Proboscis-like. Resembling a projecting horn.

Proboscis. An elongated nose or snout. It is a tubular process, whether tubular continuation of the snout, as of the elephant; or a tubular sucker, as of the musquetoe; it is always adapted to the structure of the animal, in furnishing itself with food.

Procum'bent, *procum'bens*. Lying on the ground.

Prolif'erous, *pro'lifer*. Putting forth branches or flowers from the centre of the top of a preceding one. Two story growth.

Proligera lamina. A distinct body containing the sporules, separating from the apothecia; often very convex and variable in form, and mostly dissolving into a gelatinous mass.

Prom'inent, *pro'minens*. Standing out more or less beyond what is usual in other plants.

Pro'nus-dis'cus. The under side, or back of a leaf, upwards.

Prop. See fulcrum. Tendrils and other climbers.

Propaga'tion. See flower. Extending plants by seeds, roots, &c.

Propa'go. See gemmatio, budding.

Propa'gula. See efflorescence.

Propen'dens. Apparently on the point of falling.

Prop'er, *prop'erus*. See partial. Part of a whole.

Prosenchyma is confined to the bark and wood, in which it is mixed with woody fibre. Cellular tissue, the vesicles of which are elongated and overlie each other at the extremities, is called *prosenchyma*.

Pros'trate, *prostra'tus*. See *procumbent* and *humifuse*. Lying on the ground.

Proteran'thous. Where the leaves appear before the flowers.

Protru'ded. See exsert. Projecting out, as stamens, &c.

Protru'sile. Capable of being protruded. It is applied to the heads of animals, which may be thrust out or forward, as that of the tortoise.

Prox'imus. Very near. Element next in quality.

Prui'na. The mealiness or hoariness on plums, peaches, &c.

Pruinose. Covered with a frost-like meal.

Pru'rines. Hairs which excite itching.

Pseu'do. When prefixed to a word, it implies obsolete or false.

Pseudo-morphous. False-faced. It is applied to crystals which are formed in, or upon other crystals, and take their form.

As the crystals of liasoid in Manlius, N. Y., exhibit the form of the crystals of muriate of soda, (table salt) such as are daily seen at the evaporating salt works. Same in red sand of Salina.

Pubes'cent, *pubes'cens*. Hairy; having hairs, wool, down, glandular hairs, &c. Any kind of hairiness.

Puffs, (pilidia.) That kind of receptacle of lichens, which consists of little round bordered knobs, whose disk finally turns to powder. It is at first covered with a membrane, and often clothed with a fine grey hoariness. These receptacles are elongated below into a stalk fixed to the crust, but totally different from it.

Pul'lus. Dull brownish colour.

Pulp'y, *pulpo'sus*. Filled with a tenacious kind of parenchyma. Thick and succulent or spongy.

Pulvinatus. Cushion-like. Applied to the pileus of a fungus, which is thick and corky or spongy.

Pulvi'nuli, (garden beds.) Cushions. Excresences found on the surface of the fronds of some lichens, sometimes clustered or branched; sometimes rising from the thallus, and often resembling minute trees; as in Parmelia glomulifera.

Pu'milus. Small, low, inferior stature.

Punc'tate. Dotted or sprinkled with coloured, generally diaphanous, specks. See perforated St. John's wort.

Punctic'ulate. Having minute punctures, diaphanous dots, or specks.

Punic'eus. Scarlet-coloured, bright-red.

PU'PA. Chrysalis, nymph, amelia. The quiescent state of an insect after passing
from the larva state and before it becomes a perfect insect.

Purpuras'cens, (purpureus.) Inclining to a purple colour, becoming purple.

Pusil'lus. Low, small, diminutive, compared with others.

PUT'AMEN. Nutt-shell. See nucleus.

Pyramida'lis. Conic, pyramid-form, converging above.

Pyrifor'mis. Pear-shaped. Ovate with a neck.

PYRITIFEROUS. Bearing iron pyrites. Containing sulphuret of iron.

Q.

Quadratus, (four.) Used in composition as *quadrangularis*, 4-cornered; *quadricapsularis*, 4-capsuled; *quadridentatus*, 4-toothed; *quadrifarius*, facing 4-ways; *quadrifidus*, 4-cleft; *quadriflorus*, 4-flowered; *quadrijugus*, 4-paired; *quadrilobus*, 4-lobed;
quadrilocularis, 4-celled; *quadrinervis*, 4-nerved; *quadripartitus*, 4-parted; *quadrivalvis*;
quaternus, 4 in a whorl.
4-valved; *quadrivascularis*, with 4-cup-form cells;

QUALITIES OF PLANTS. Richard says that plants of the same taste and odour, are
generally possessed of similar qualities. Also that the smell and taste are always
the same. He divides the odours of plants into, 1. *Fragrant*. 2. *Aromatic*. 3.
Ambrosiae (resembling amber.) 4. *Alliaceous* (resembling garlic.) 5. *Fetid* (as
asafœtida, &c.) 6. *Nauseous* (causing the stomach to heave.) As the fragrant,
the aromatic and ambrosiae, are always free from all hurtful qualities, and as the
fetid and nauseous are generally poisonous, it seems that mankind have in some
measure an instinctive principle by which their food is to be selected.

Quinus, five. Used in composition, as *quinus*, 5 in a whorl; *quinatus*, 5-leaved petiole;
quinquangularis, 5-cornered; *quinquecapsularis*, 5-capsuled; *quinquecostatus*, 5-nerv-
ed. or 5-ribbed; *quinquefidus*, 5-cleft; *quinqueflorus*, 5-flowered; *quinquejugus*, 5-
paired; *quinquelobus*, 5 lobed; *quinquelocularis*, 5-celled; *quinquenervis*, 5-nerved;
quinquepartitus, 5-parted; *quinquevalvis*, 5-valved; *quinquevascularis*, 5-cupform
cells.

QUINCUNX. *quincuncialis*. When the pieces are five in number of which two are ex-
terior, and the fifth covers the interior with one margin and has its other margin
covered by the exterior: as in rosa.

Quintin. From some recent observations it appears that the nucleus consists of three
coats; the outer called the *tercine*, the next the *quartine*, and the most interior, the
quintine.

R.

RACE'ME, *race mus.* (*Rax*, a bunch of grapes.) That kind of inflorescence, wherein
the florets have undivided pedicels arranged along the sides of a general peduncle.
As currants.

RAC'HIS, (*Rachis*, the back-bone.) The filiform receptacle connecting the florets in a
spike. As in wheat-heads. It is sometimes put for the midrib in ferns.

RA'DIATE, *radia tus.* The spreading florets around the margin of a compound flower.

RADIATED ANIMALS. Those whose sentient principle resides in a medulary globule,
spheroid, or ring, with radiating branches; as the polypus which inhabits coral
rocks, the tape-worm, &c.

RAD'ICAL, *radica'lis.* Proceeding from the root without the intervention of a stalk.
As the leaves of plantain.

Ra'dicans. See rooting. Roots or rootlets proceeding from stems, leaves, &c.

RAD'ICLE, *radic'ula.* The little fibrous branches proceeding from the main root, which
imbibe the moisture and other nourishment for the plant.

Ramen'tum. Applied to the loose scales frequently in the angles of petioles, &c.
called in English, *raments*. They are thin brown foliaceous scales, appearing some-
times in great abundance upon young shoots of the leaves of ferns.

RA'MEOUS, *rameus, ramealis;*) of or belonging to the branches.

RAMENTA'CEOUS, (*ramentaceous;*) covered with weak shrivelled brown, scale-like pro-
cesses.

Ramo'sus, RAMO'SE. Branching. *Ramossis'simus.* Very branching.

Raph'ides, are among the tissue and particularly in the intercellular passages; in
such cases, a vascular connection is maintained between the base of the ovulum
and the base of the nucleus, by means of a bundle of vessels called a raphe; the

hilum represents the base of the seed; the apex is determined by the point where the vessels or tissue of the integument concentrate.

Rarifol'ius. Leaves few and distant. *Rariflo'rus.* Flowers few and distant.

Ray. The outer margin or circumference of a compound flower. It is also applied to the peduncles and outer florets of an umbel: particularly when they differ in any respect from the inner, or disk, florets. Also to the bony spines of the fins and gill-membranes of fish.

Recep'tacle, *recepta'culum.* The base by which the outer parts of the fructification are connected and supported; being at the end of the peduncle. Perhaps this part may hereafter be noticed on account of the change it in some way produces on the vegetable secretions. Dr. Smith mentions the wholesomeness of some fruits, while the other parts of the plant are poisonous. See page 120. Every one has noticed the delicate flavor of the pond-lily, (Nymphea odorata,) while all back of the receptacle is extremely different. Numerous similar instances may be cited to prove the very great change in some way effected by the receptacle. See Torus.

Re'clined, *reclini'tus.* Bent down so that the apex of a leaf, &c. is lower than the base. Applied to the stem it implies that it is bowed towards the earth.

Recur'ved, *recurva'tus.* Curved downwards.

Reflex'ed, *reflexus, recurvus, retroflexus, retrocurvous, refractus.* Bent back, nearly or quite to touch the stem or peduncle.

Refrac'ted, *refrac'tus.* Bent back in an angular form, so as to appear as if broken.

Reg'num vegetab'ile. The *vegetable kingdom* as taken into view with the *animal* and *mineral.*

Rejected Classes. Linneus distributed all plants into 24 artificial classes; but his eleventh, eighteenth, and twenty-third classes, are considered by many botanists as very inconsistent in their character.

The *rejected classes* being retained by Muhlenberg, Bigelow, and some other distinguished botanists, they are defined here.

Dodecandria, the 11th class of Linneus.

It includes those plants whose flowers are perfect, and contain from twelve to nineteen stamens to each.

Polyadelphia, the 18th class of Linneus.

It includes those plants whose flowers are perfect, and contain stamens united by their filaments in more than two parcels.

Polygamia, the 23d class of Linneus.

It includes those plants whose flowers are perfect and staminate or pistillate on the same plant, or on different individuals of the same species.

Rejected Orders. *Monogamia*, the 6th order of Linneus in the class Syngenesia.

It includes those plants whose flowers are perfect and not compound, and contain stamens with united anthers; as the lobelia and touch-me-not.

Monoecia, *Dioecia*, and *Trioecia*, are the three orders of the rejected class Polygamia. The order *monoecia* includes those plants, which comprise all that is necessary for the character of the class in one plant—*dioecia*, in two plants—*trioecia*, in three plants.

The orders between *decagynia* and *polygamia*, also beyond *monadelphia*, are unnecessary. Their definitions are implied under their associate orders.

Rel'ative propor'tions. When dimensions are expressed indefinitely, as long, very long, short, large, &c. such expressions are to be understood as long, &c., compared with the proportion which similar parts usually bear to other parts, in plants generally. But when such terms are used for specific names, the proportion between the parts of species of the same genus, which were known when the names were given, are compared. Thus *Kalmia latifolia* has a broader leaf than *Kalmia angustifolia:* but it has a narrow leaf compared with any species of *trillium.*

Remo'te, *remo'tus.* See relative proportion.

Re'ni-form. See kidney-form.

Repand', *repan'dus.* Having small sinuses, separated by teeth in the form of segments of small circles. Spread.

Re'pens. See creeping.

Replace'ment. Applied to a crystal when its angles or edges are wanting, and are supplied by a plane face or other angles.

Rep'licate (*replicative*) when the upper part is curved back and applied to the lower.

Rep'tans. See creeping and runner.

Resupina'tus. Upside down, by a twisting of the stem.

RETIC'ULATE. Netted. Having veins crossing each other like net-work.

RE'TI-FORM. Net form, net-like.

Retiner'vis, when the veins are reticulated, or reticulate-like.

RETRAC'TILE. When the head, or other organ, may be drawn back, as the drawing in of the head of a tortoise.

RE'TROFLEX, *retroflex'us*. Bending in various directions.

Retrofrac'tus. See refracted. Bent suddenly back.

Retror'so-dent'atus. See runcinate. Teeth bent back.

Retror'sum. Turned backwards.

RETU'SE, *retusus*. Ending in a sinus generally hollowed but very little. See emarginate.

REVER'SED. Bent back towards the base.

REV'OLUTE, *revolu'tus*. Rolled outwards. A term in foliation; applied to leaves whose opposite margins are rolled outwards and continued rolling till the two rolls meet on the back of the midrib and parallel to it. It is the reverse of *involute*.

Rhizocar'pous. Those plants whose roots endure many years, but whose stems perish annually.

RHIZO'MA. Rootstalk. A kind of rooting stem, which is partly or wholly under ground, nearly horizontal, and sends up new plants yearly; as Malaxis.

Rhizosper'ma. Fruit on the root of some ferns.

RHOM'BIC, *rhom'beus*. See deltoid. Diamond-form.

Rhombo'ideus. Diamond-spot like: oval and a little angular, against the middle, at the edges.

RIB'BED. When the midrib sends off lateral ribs nearly straight to the margin. It is sometimes put for *nerved*, which see.

RIG'ID, *rig'idus*. Stiff, inflexible, or not pliable: or, if attempted to be bent, will rather break.

RIMO'SE, *rimo'sus*. Chinked, abounding in cracks, as the outer surface of the pitch-pine tree.

RING. The band around the capsules of ferns, which is elastic. See exannulatus and annulatus.

It is also the thin membrane attached to the stem of a fungus. When young it is attached to the pileus. It is *erect* when the upper edge is not fastened; *inverse*, when the lower edge is not fastened; *sessile*, when it is attached to one side only; *mobile*, when it may be pushed up and down; *persistent*, when it is as durable as the pileus: *fugacious*, when it disappears at the opening of the fungus.

RIN'GENT, *rin'gens*. See labiate. Grinning. Didynamous.

ROOT, *radix*. The descending part of a vegetable, which enters the earth. Roots are *annual*, *biennial*, or *perennial*. They are branching, fibrous, creeping, spindle-form, tuberous, bulbous, or granulated. See each term in its place.

ROOT'ING. Bending or extending to the earth and striking root.

ROOT'LET. A fibre of a root.

ROPE-FORM. Funicular, resembling cords in general structure.

Ro'ridus. Humid. Appearing as if covered with dew; or with transparent elevations of the parenchyma.

ROSA'CEOUS. A corol formed of roundish spreading petals, without claws, or with extremely short ones.

ROS'TEL, *rostel'lum*. That pointed part which tends downwards at the first germination of the seed. See corcle.

ROOT'STOCK, (rhizoma.) A prostrate, thickened, rooting stem, which yearly produces young branches or plants; as Malaxis.

Rostra'tus. See beaked. Having a bill or beak.

RO'TATE, *rota'tus*. See wheel-form. Border and scarcely a tube.

Rotun'dus. Round. Without angles. Nearly round.

ROUGH. Covered with dots, which are harsh to the touch, but not apparent to the naked eye. Clothed with hairs, the lower joints of which resemble little bulbs; and the upper ones short, rigid bristles.

Rubigino'sus. Rust-colored.

Rudera'lis. Growing among rubbish about buildings, &c.

RU'FOUS. Reddish yellow.

RUG'GED. Covered with invisible dots, which are harsh to the touch. See rough.

RUGO'SE. Wrinkled. Veins more contracted than the disk, so that the intermediate parenchyma rises up between them.

Ru'minated, *ruminatus.* When a hard body is pierced in various directions by narrow cavities filled with dry cellular matter.

Run'cinate. Pinnatifid, with the divisions pointing backwards; as the dandelion.

Run'ner. A shoot producing roots and leaves at the end only, and from that place giving rise to another plant; as strawberry.

Rupes'tris. Growing naturally among rocks. Rocky.

Ru'tilus. Shining, bright, glossy, not opaque and dull-colored.

S.

Sac'cate. Furnished with a little bag. Bag-like.

Sag'ittate, *sagitta'tus.* See arrow-form.

Salif'erous. Salt-bearing. Applied to a secondary rock in which salt springs are found.

Sal'ver-form. A monopetalous corol, with a flat spreading limb proceeding from the top of a tube.

Sam'ara. A winged pericarp, not opening by valves; as the maple.

Sam'aroid. Resembling a samara, or winged capsule.

Sap. The watery fluid contained in the tubes and cellules of vegetables, which furnishes the means of, or is itself, the support of their growth and life, and their preservation from decay. That part of the sap which supplies materials for the growth, foliage and fructification, evidently descends by way of the *camb.* But that which fills the interstices among the woody fibres, and serves to preserve them from decay, is probably raised by capillary attraction. Freezing and thawing in some way or other suspends for a day or two, the effect of capillary attraction. It then descends by its natural gravity; at which season only can the sap be obtained from the sugar maple. That it descends is evident, from the fact that no sap is obtained from below the incision, except a few drops at the first moment after it is made. That the sap descends from the woody fibres, appears from inspection. That this sap serves to preserve the wood, appears from the rapid decay of the wood in the sugar maple directly above the incision, to the whole extent of the bole; while the incision produces but little effect below it. And the herbage of the tree, with the outer layers of wood, continue as flourishing after the tree has been drained of its sap annually for half a century, as its neighbors, which have never lost any sap.

Sapin'dus. Having some kind of taste. Not insipid.

Sa'por. Having a relish, pleasant, any taste. Color sometimes indicates the taste. White berries are generally sweet; red, sour; blue, sweet and sour; black, insipid and poisonous.—Willdenow. But certainly our spicy wintergreen, (gaultheria,) partridge-berry, (mitchella,) are exceptions to Willdenow's rules.

Sarcocarp. This term has recently come into use. It is rather a good term, as a popular word, than as a technical one. It is applied to the succulent mass of the apple, plum, peach, &c. It comes between the definite coats of a pericarp called epicarp, and endocarp, when one of them extends its substance so as to produce the succulent mass between the two regular coats.

Sar'mentose, *sarmento'sus.* A running shoot which strikes root at the knots or joints only. Generally applied to shrubs. See runner.

Sauc'er-form. Shaped like a common tea-saucer or patella.

Sca'ber, *Sca'brities.* Scabrous. See rough. Roughness.

Scales. Thin, flat membranous processes, formed of cellular tissue springing from the cuticle. They may be considered as flattened hairs.

Scal'loped. See repand.

Scaly. Covered more or less with scaly appendages, as fern roots; or consisting of substance, in some measure resembling coarse fish-scales; as the scales of lily roots.

Scan'dens. See climbing.

Scan'soral. Having feet formed for climbing—two toes forward and two backward.

Scape, *sca'pus.* Radicle peduncle. Flower stem from the root.

Scap'ulars. The feathers which descend down each side of the back.

Sca'rious, *scariosus.* Dry and membranous, generally transparent.

Scat'tered. Standing without any regular order; that is, neither opposite, alternate, nor in any definable order.

Schismatop'terides. Dehiscent ferns. One of the new orders of ferns. It is adopted by Pursh, Torrey, &c. Osmunda, lygodium and schizæa are placed here.

Scimitar-form. See acinaciform. Flat-sided, curved edgewise; inner edge concave, thick; outer edge convex, thin.

Sc'ion. Shoots proceeding laterally from the roots or bulb of a root.

Scrag. Back of a bird's neck.

Scrobic'ulate, *scrobiculatus.* Deep round pits on the receptacle gives it this name.

Scutel'lae. See shield. A shield with an elevated rim, formed by the thallus. Orbilla is the scutellum of Usnea.

Scutel'liform. Form of the knee-pan, or a saucer.

Scymitar form. See acinaciform. Cutlass-form. One-edged sword.

Scyph'ifer, Scyph'us. Cup-bearing. See cyathiform. A cup-like dilation of the Podetium, bearing shields on its margin.

Sec'tion. The genera of some orders, and the species of some genera, are divided into sections. Sometimes disregarded, and the whole order read over.

Secun'dus. Turned to one side. One-sided, one-ranked.

Seed. The matured part of fructification, destined for the reproduction of the species. It contains the rudiment of a new plant and is analogous to the egg of animals. It consists of the corcle, cotyledons, tegument and hilum. The seed is the *ovulum* arrived at maturity. Sometimes a carpel contains more ovules that ever become perfect seeds. The bladder-nut (staphylea trifolia) when in flower, has a germ with about 15 to 20 ovules. When the seeds ripen, they do not exceed 4 to 6 hard nuts. It is said, that the germ of the chesnut contains 14 ovules; which ripen into but one seed. The matter of the other ovules is supposed to be absorbed by the living ones.

Seg'ment. The parts into which a calyx, corol, leaf, &c. is divided or cut.

SEGREGATA, polygamia. The fifth order of class Syngenesia; in which the florets are separated by distinct perianths.

Semiamplexicau'lis. Half clasping the stem, with sessile leaves.

Semicolum'nar. See semiterete. Tapering half cylinder.

Semicylindra'ceus. Half-cylindric. In form of a round ruler split lengthwise, as onion leaves.

Semi-in'ferus. Half-inferior. When the calyx grows on the side of the germ, so that it is neither superior nor inferior.

Semiorbic'ular, *semiorbicula'tus.* In form of a half circle.

Semisagitta'tus. Half arrow-form. That is, one side wanting; as in the *vicia pusilla.*

Semitere'te, *semiter'es.* Half-terete. See terete.

Sempervi'rens. Living through the winter and retaining the leaves.

Se'nus. Six-fold. Growing in sixes. 6 leaves in each.

Sen'silis, **sen'sitive.** Moving on being touched. See irritability.

Sen'sim. Gradually by little and little. Applied to a form, &c. which arises gradually from some other form.

Sen'tient prin'ciple. The knowing principle. That faculty by which animals are enabled to take notice of external objects.

Sepals. The divisions of the calyx, the leaves of a perianth calyx. When sepal is used, it implies the leaf, or subdivision, of a perianth calyx.

Seria'lis, in rows arranged in *series;* biserialis in two rows: triserialis in three rows; bifariam means in two rows or faces; trifariam in three rows.

Seric'eus. Silky. Covered with soft close-pressed hairs.

Seroti'nus. Coming to maturity late in the season. Applied to willows, and to some other plants, it implies, that the time of flowering is after the leafing.

Ser'pentine mar'gin. See repand. Waving edges.

Ser'rate, *serra'tus.* (*Serra,* a saw.) Having sharp notches, appearing as if cut, about the edge or margin, pointing towards the apex.

Ser'rulate, *serrula'tus.* When a serrate leaf has the teeth serrate again. It is also applied to any serratures, which are very fine.

Ses'qui. This term prefixed to the Latin name of a measure, shows that such measure exceeds its due length by one half; thus sesqui-pedalis means a foot and a half.

Sesquial'ter. When a large fertile floret is accompanied by a small abortive one.

Ses'sile. Sitting down. When a leaf, flower, seed-down, pileus of a fungus, receptacle of a lichen, &c. are destitute of a petiole, peduncle, stipe, &c.

Seta'ceous, Se'ta, a bristle, bristle-form. Applied to antennae.

Seto'sus, **Seto'se,** *Setig'erous.* Bearing bristles. Bristly. Having the surface set with bristles, or stiff straight hairs.

Sex, Six. Used in composition; as *sexangularis,* 6 angled, *sexfidus,* 6-cleft, *sexflorus,* 6-flowered, *sexjugus,* 6-paired, *sexlocularis,* 6-celled, *sexvalvous,* 6-valved.

Sex'us. Sex. When Linneus first adopted the stamens and pistils as the organs of classification, he addressed his arguments to physicians, who were conversant with animal anatomy. He therefore took advantage of the analogy between animals and vegetables in the reproduction of their kind, in order to illustrate his theory. He called the stamens males, and the pistils females, &c. But nothing can be more ridiculous and disgusting than to keep up these references at this day.

Sharp. Tapering to a point. Acute differs from sharp, as it may apply to the tip of a leaf, which becomes broad immediately back of the point.

Sheath. The prolongation of a leaf down the stem, which it encloses; as in most culmiferous plants.

Sheath'ing (vaginans;) surrounding a stem or other body by the convolute base; this chiefly occurs in the petioles of grasses.

Shield, *scutel'lae.* This kind of receptacle of lichens, which is open, orbicular, saucer-like. The under side and border are of the substance and color of the frond. The disk is of a different color and substance from the border and frond, containing the seeds in extremely minute vertical cells. The shields are thick and tumid, when they are sessile: and membranous, when stalked or elevated. Very rarely they are perforated in the centre. Smith.

Shield-form. Shape resembling the ancient buckler, a broad-round, broad-oval, flat armor. See clypeate and peltate.

Shoot. Each tree and shrub sends forth annually a large shoot in the spring, called the *spring shoot;* and from the end of that a smaller one about the 24th of June, called St. John's shoot. There is always the appearance of a joint where the latter springs out, very perceptible after the whole shoot is matured.

Shrub. A small vegetable with a woody stem. See tree and frutex.

Shrub'by. Having woody stems or branches; bushy.

Sic'cus. Dry, neither humid nor succulent.

Sick'le-form. A very much curved, keel-like edge within.

Sides. Applied to shells means the right and left, when viewed from the front, (opening side) or back.

Sil'icle, *silic'ula.* A little silique, whose length and breadth are nearly equal.

SILICULO'SA. The first order of the class tetradynamia. It is distinguished by the length and breadth of the pod being nearly equal; as the pepper-grass. See siliquosa.

Silique, Silique-form. Shaped like a silique without its essential character.

SILIQUO'SA. The second order of the class tetradynamia. It is distinguished by the length of the pod greatly exceeding the breadth; as the mustard.

Silky, *sericeus.* Covered with very fine close-pressed hairs, silky to the touch.

Sim'ple, *sim'plex.* Undivided. Single, opposed to compound, aggregate, or branched; or scarcely divided or branched at all.

Simplicis'simus. Very simple.

Single. Only one. Also opposed to full-flowered.

Sinistror'sum. Twining from right to left, that is, contrary to the apparent motion of the sun; as the pole-bean.

Si'nuate, *sinua'tus.* (*Sinus*, a bay.) Having rounded incisions. The margin hollowed out, resembling a bay; as the white oak leaf.

Sin'uate-ser'rate. Having serratures hollowed out; as the chesnut.

Si'nus. A roundish incision into the edge of a leaf or other organ.

Siphun'culus. A canal or succession of perforations, connecting the chambers of some univalve spiral shells.

Sit'ting. See sessile. Without a stem.

Si'tus. Situation; as opposite, alternate, &c.

Slashed, *laciniatus.* Divided by deep, taper-pointed cuts.

Sleek. See glabrous. Smooth may not be glabrous.

Sleep of plants. The effect of night upon the external appearance of some plants; as the leaves of peas, closing over the very young flowers.

Slopes. The edges of an oblique, bivalve shell. *Anterior slope*, is the edge in which the ligament is situated; *posterior slope*, is the edge in which the beaks of the shell turn forward, being the edge opposite to that in which the ligament is situated.

Smarag'dinus. Grass-green. Greenish.

Smooth. Sometimes put for glabrous, but not synonymous with it. For glabrous means sleek or slippery; whereas smooth may be applied to fine chamois leather.

Sobolif'erous. Bearing shoots.

Sol'id, *sol'idus.* Of an uniform substance, not naturally partible; as the turnip. See coated and scaly.

Solitary, *solitarius.* Standing alone, or very distant from others of the same kind.

Solu'tus. Disengaged. Not adnate, or growing together.

Somewhat. Used as a diminutive; implying in some degree, not fully. Smith translates *sub* by *somewhat*, when combined with an adjective; as *subtrifidus*, somewhat three-cleft.

Somnus plantarum. See sleep of plants.

Sordi'de al'bicans. Dirty white.

Sorus and *Sore dia.* See fruit-dots. Clusters of the fruit of ferns; heaps of powdery bodies lying upon any part of the surface of the thallus; the bodies of which the soredia are are composed.

Spadi'ceus. Chesnut brown.

Spa'dix. An elongated receptacle proceeding from a spathe, or resembling such in texture and appearance.

Span, *spithama, spithamoeus.* Seven inches, or the space between the thumb and fore finger, separated as widely as possible.

Span'gles. *patel'lulæ.* Open and orbicular, like shields, but sessile and not formed of any part of the crust, from which they differ in color, being most usually black. The seeds are lodged beneath the membrane that covers their disk, as in the former, and the disk is surrounded by a *proper* border. Their seeds are observed to be naked in the cellular substance of the disk, not enclosed in cases. Disk sometimes concave or flat, oftener convex, and even globose, without any apparent border, when in an advanced state.

Spatha'meus. A span high, or a span long.

Spa'the. That kind of calyx which first encloses the flower, and after it expands is left at a distance below it. A daffodil, onion, Indian turnip.

Spa'the-form. Resembling a spathe. A one-sided calyx.

Spat'ulate, *spatula'tus*, or *spathula'tus.* Oblong, diminishing into a long, narrow, linear base.

Spe'cies. The lowest divisions of vegetables. There have been about 90,000 species described. De Lamarck and De Candolle, make 4,866 species of plants in France, including the crygtogamia. About one thousand phenogamous species and ferns have been examined by Prof. Ives, in a wild state, within five miles of Yale College. About the same number have been examined about Troy, New York, by Dr. Wright and Prof. Hall. Hooker gives, in his British Flora of 1831, of flowering plants and ferns, 1,570 species for England and Scotland. In Eaton's System of Botany of North American plants for 1840, there are 5,086 species of flowering plants and ferns described. But common cultivated exotics are included. The number of indiginous species of flowering plants and ferns, described in Eaton's Botany of 1840, as growing north of the Gulf of Mexico, between the Atlantic and Pacific, is 4,736; exotics 350.

Specif'ic character. See diagnosis and descriptions.

Specif'ic name. In common use we apply this to what Linneus called the *trivial name.* The specific name he calls all those several descriptive words which express the essential difference or diagnosis.

Spha'celate. Withering, becoming blackened.

Sphæ'rula. A globose peridium with a central opening, through which sporidia are emitted, mixed with a gelatinous pulp.

Sphagno'se. Wet, marshy, swampy.

Spheroi'dal. A spherical solid, either depressed at each end and called an oblate spheroid, or elongated at each end and called an elongated spheroid.

Spar'sus, Scattered; used in opposition to whorled, or opposite or ternate, or other regular order.

Spher'ule. Small globules of nearly a spherical form.

Spi'culate, *spiculatus.* Covered with fine, fleshy, erect points.

Spike, *spi'ca.* Having florets arranged along the sides of a general elongated peduncle or receptacle, without partial peduncles, or with extremely short ones; as a wheat head or mullein.

Spi'kelet, *spic'ula.* One of the subdivisions of a spike.

Spines'cent, *spines'cens.* Becoming thorny.

Spino'se, *spiny, spinosus.* Thorny.

Spiral vessels are membranous tubes, with conical extremities; their inside being occupied by a fibre twisted spirally, and capable of unrolling with elasticity to the eye; they are, when at rest, like wire twisted round a cylinder that is afterwards removed, for the purpose of finding them for examination. The stalk of a strawberry-leaf, or a young shoot of the cornus alba, (common dogwood) may be conveniently used; they may be readily detected by gently pulling the specimen asunder: when they unroll, and appear to the naked eye like a fine cob-web.

SPIRE. Is applied to all the whorls of a univalve shell, which extend upwards above the first whorl, called the body or belly of the shell.

SPIRE-POIN'TED. Barton substitutes this for cuspidate.

Spith'ama. Short span. See measures.

SPLIT, *fissus.* See parted and cleft. Divided nearly to the base into segments—bifid in 2, trifid in 3, &c.

Sporan'ginum. A name given to the pericarp by Hedwick.

Sporangid'ium. Willdenow's name for the columella of mosses. See columella.

SPORID'IA, granules which resemble *sporules*, but which are of a doubtful nature.

SPO'RULES, the organs in Cryptogamous plants, which are equivalent to seeds in Phenogamous plants. They are produced in the *theca of* FERNS, MOSSES and HEPATICAE, the *shield* (scabellum and apothecium) of LICHENS, within the *substance of* ALGAE, and in the *hymenium* (or substance) of FUNGI.

SPOT'TED. Having spots differing in color from the principal part.

SPREAD'ING. See patens.

SPUR. An elongated process from the base, or from near the base of the calyx or corol or nectary, somewhat resembling a horn or cock's spur. As the larkspur, orchis and nasturtion.

SPUR'RED. Having a spur or process from the base.

SPUR'RED-RY'E, or SPUR'RED-GRA'IN. ERGOT. An enlarged, elongated seed, projecting out of a glume, of a black or violet color, brittle texture, somewhat spur-form. It is Acinula clavus, of botanists: formerly considered as a morbid swelling. See p. 487. The black or dark coloured kind is called the *malignant ergot.* "Large doses of which cause head-ache and febrile symptoms. Under proper regulations it may be considered a valuable addition to the present stock of medicinal agents. The dose usually administered is from ten grains to half a drachm, in decoction." Bigelow. The pale violet kind, called *simple ergot*, is harmless and inactive. Willdenow.

Grain growing in low moist ground or new land, is most subject to it. Also spring grain more than winter grain; and rye more than wheat, barley, or oats.

When crops are so much infected with it as greatly to injure them, the loss may be in a great measure made up by collecting the ergot, and selling it to druggists. It should be thoroughly winnowed out of the grain, as it is said to be very injurious in bread. The ergot may then be collected from the chaff.

SQUAM'I-FORM. Of the form of scabs or scales.

SQUAMULO'SE, *squamo'sus*, or *squama'tus.* See scaly.

SQUARRO'SE, *squarro'sus.* Ragged. When the points of scales, leaves, &c. bend outwards, so as to make a ragged appearance. It is also used for scurfy, or when covered with a bran-like scurf.

STACHYOPTE'RIDES. Spiked ferns. One of the new orders of ferns. It is adopted by Pursh and others. Lycopodium, Botrychium, Bernhardia and Ophioglossum are placed here.

STALK. See stem.

STA'MEN. The whorl of organs immediately within the petals is composed of bodies called stamens, which are considered the fecundating apparatus of plants.

STAM'INATE. Having stamens only, without a pistil.

Stamin'eus. Having no corol, the stamens serving in its stead. Ray.

Staminif'erous. See staminate. Bearing stamens only.

STAN'DARD. See banner. Upper petal of pea-flowers.

STAR'VED, *depauperatus.* When one part is less perfectly developed than is usual with plants of the same family.

STEL'LATE, *stella'tus.* Spreading out in a radiate manner. Leaves are stellate, when three or more surround the stem in a whorl. Flowers and the volva of a fungus are stellate, when the petals or segments spread out, so as to resemble the vulgar representation of a star.

STEM. The main base or supporter of the fructification and herbage. It is either (tige,) caulis, culm, scape, peduncle, petiole, frond, or stipe; which see.

STEM'LESS. Having no stem. Acaulis.

STEMMA'TA. Small globules, often lucid, resembling eyes. They are generally three in number on the top of the head.

STIG'MA. The top of the pistil. It is generally moist when in full perfection, for the better reception of the pollen.

STINGS, *stim'uli*. Hair-like processes, which excite itching; as on the nettle. They are generally hollow with a sack at the base, containing an acrid liquor. By pushing against their points, the sacks are compressed, and thrust out the liquid.

STIPE, *sti'pes*. The lower part of the midrib of the fern; the stem of a fungus; or the stem of the down on the seeds of dandelion; the stem of a germ elevating it above the receptacle: or any other stem-like organ, not otherwise particularly named.

STIP'ULE, *stip'ula*. A leafet or scale at or near the base of a petiole, which in some respect differs from the leaves.

STIPULAR, *stipula'ris*. Formed of, or connected with, stipules.

Stolonif'erous. Putting forth suckers or shoots.

Stoma'ta, pores of the epidermis, or passages through the cuticle, having the appearance of areolae, in the centre of which is a slit that opens or closes according to circumstances, and lies over a cavity in the sub-jacent tissue.

Stramin'eus. Straw-colored, straw-like.

STRA'TUM. A layer. It is applied in a general or partial sense. A general stratum of rock, or of detritus, may include several partial strata. These partial strata, or sub-strata, should be called layers, to avoid circumlocution and confusion.

Stra'tum prolig'erum. The seed-bearing disk of the receptacle of lichens.

STRIAE. Marks or lines on minerals, on elytra of insects, &c.

STRI'ATE, STREAKED, *stria'tus*. Marked or grooved with slender lines, longitudinally.

Stric'tus. Both stiff and strait, or perfectly strait. See erect.

Strictissi'mus. Very stiff and straight.

STRIGO'SE, *strigo'sus*. Armed with small, close, rigid bristles, which are thickest below. See hispid.

Strobila'ceous. In form resembling a strobile.

STRO'BILE, *strob'ilus*. An ament with woody scales; as the fruit of pine. Each scale is an open carpel, with ovules or seeds, destitute of tunics. See Anthocarpous.

STRO'MA. The layer or covering of some fungi. A fleshy body to which a flocculent substance is attached.

STROM'BUS-FORM. Resembling the twisted spire of the shell of a strombus [called a dinner-horn in N. England.]

STYLE, *sty'lus*. (*Stules*, a column.) That part of a pistil, which is between the germ and stigma. It is often wanting; as in the Tulip.

Sub. Used in combination as a diminutive. See somewhat.

SUBERO'SE, *subero'sus*. Corky.

SUBMER'SED, *submer'sus*. Growing under water.

Subterra'neus. Growing and flowering under ground. This may be applied to the shoots of the Polygala rubella.

Sub'tus. Beneath. Underside.

SUBULATE, *subula'tus*. See awl-form. Slender-acute.

Subuniflo'rus. Generally one-flowered, but sometimes more.

Succulen'tus, suc'culent. Juicy, cellular, abounding in juice. It is also applied to a pulpy leaf, whether juicy or not.

SUCK'ER, *succu'lus*. A shoot by which the plant may be propagated. It proceeds from the neck of a plant, at the joining place of the stem and root.

SUFFRU'TICOSE, *suf'frutex*, *suffruticosus*. An under shrub. A plant whose branches annually die, but the lower part of the stem is woody, and remains, as the *Spirea alba*, white steeple bush; also sage.

SUL'CATB, *sulca'tus*. Flowered. Marked with deep lines.

Sulphur'eus. Sulphur-colored.

Sup'erans. Exceeding in height.

SUPERAX'ILLARY. Above the axil.

SUPER'FLUA, polyga'mia. Second order of the class Syngenesia, having the florets of the disk perfect, of the ray pistillate; as asters.

Super'ne. Upwards, towards the top.

SUPE'RIOR, *sup'erus*. A calyx or corol is superior when it proceeds from the upper part of the germ. See germ.

SUPERVOLU'TE, *supervolutiva*. When one edge is rolled inwards and is enveloped by the opposite edge rolled in an opposite direction.

Supin'us. Face upwards. See resupinatus. Upside down.
Supradecompos'itus. More than decompound; which see. When the petiole is divided and the divisions divided at least once more, and the last divisions have leafets.
Suprafolia'ceus. Inserted above the axil, or based of the leaf.
Sur'culus. A little branch or twig. Applied to the stem or shoot which bears the leaves of mosses.
Su'ture, *sutu'ra.* A seam-like aapearance at the meeting of two parts; as the valves of the pea-pod, the parts of a skull, &c.
Swim'ming, (natant.) Floating beneath the surface of the water.
Sword-form, (ensiform.) Generally straight and 2-edged, sometimes a little arching on one side.
Sylvat'icus. Growing in woods.
Sylves'tris. Altogether wild; growing in wild woods.
Symmetrical. Proportional. When the parts of a flower, or other organ, are uniform in their proportions, one to another: as the flowers of apples, currants, &c.
Synan'thous. When flowers and leaves appear at the same time.
Syncarpous. When several carpels unite in one germen; so that the germen appears. to be a many-celled ovary or germ.
Syngene'sious. (*Snn*, together, *genesis*, springing up.) Anthers growing up together, in an united tubular set. It is applied to all those plants whose flowers are compound, having the anthers in each floret with more or less of their edges adnate; so that the whole (which are always five) form a tube.
Syn'onyms, *sinon'yma.* Different names for the same plant.
Synop'sis. A condensed systematic view of a subject, or science.
Sys'tem, *syste'ma.* An arrangement of natural bodies according to assumed characters; for the purpose of aiding the mind and memory in acquiring and retaining a knowledge of them.

T.

Tæni'anus. Robbin-form. Tape-form.
Tail. A filiform process terminating a seed, &c. As the Virgin's bower.
Tail-coverts. A clump of feathers above the tails of birds, adjoining the bases.
Tail-feathers. The large feathers of the tails of birds; generally either 10, 18, 20, or 24; but 12 is the most common number.
Tail-pointed, *caudatus.* Excessively acuminated, so that the point is long and weak.
Tar'gets, *pel'tæ.* That receptacle of lichens which is flat close-pressed, and attached to the frond by its whole underside as if glued; sometimes attached to the bark of the frond. It is broad, kidney-form, or oblong, rarely irregular: covered with a thin colored disk, with no border, except occasionally a very minute accessory one, which seems to circumscribe it. In an early stage it is concave, and concealed by a thin gelatinous fugacioas membrane, or veil.—Smith.
Tarsus. The ancle and foot of an insect, excepting the hook or claw at the extremity.
Trrtar'eous, *tartareus.* Having a rough, crumbling surface.
Tear-form, *lachrymaeformis.* Nearly the same as pear-shaped.
Tec'trics. Wing coverts. The longest feather's of a bird's wing next above the quills. *Minor tectrics* are sometimes fouud above the larger.
Teeth of mosses. The outer fringe of the peristomium is generally in 4, 8, 16, 32, or 64 divisions which are called teeth. See peristomium.
Tegu'ment. The skin or bark of seeds; as appears very distinct on a boiled pea or bean.
Temp'erature. The degree of heat and cold to which any place is subject. This is not limited to degrees of latitude: as high mountains in Pennsylvania produce many plants most natural Hudson's Bay. In cold regions white and blue petals principally prevail; in warm regions red and other bright strong colours.

In the spring season white petals predominate; towards autumn the yellow are most prevalent.—Willdenow.

Ten'dril. That kind of appendage which is filiform and reaches out to grasp bodies to climb by. As the climbers of grapes and peas.
Tenel'lus. Tender, delicate and fragile.
Tentac'ula. The arms of feelers of insects, and of other animals.
Ten'uis. Thin and slender.
Tenuifol'ius. Slender-leaved.

Ter'ete, *teres.* Round columnar, and tapering from the base to the other end. Never cylindrical; but the term cylindrical is often applied to forms approaching the terete.

Tergem'inus, Tergeminate. Thrice-paired. The petiole is forked, these branches forked, and the last branches with paired leafets.

Term. Technical terms should be defined in a dictionary of each science and art. But words used in their common acceptation, whether Greek. Latin. English, French, &c., should not be defined in such a dictionary, however frequently applied in such science or art.

Ter'minal, *terminalis.* Proceeding from, or occupying the end of a stem, branch, style, &c.

Tern'ate. Three-fold. In threes. This term is also applied to compound leaves, where three leafets proceed from the end of one petiole; as in the strawberry. See biternate and triternate.

Tes'sellate, *tessel'atus.* Chequered, tesselated.

Testa'ceous. Shelly, crusty. Applied to insects it generally means light brick-color, approaching the color of tanned sheepskin.

Tetra, four—used in composition; as *tetragonus*, 4-cornered; *tetrapetalus*, 4-petalled; *tetraphy'llus*, 4-leaved; *tetrapterygia*, 4-winged; *tetraspermus*, 4-seeded; *tetraedra*, 4-sided pod or capsule.

TETRADYNMIA. (*Tessares*, four; *dunamis*, power.) The Linnean class, whose flowers have six stamens, four of which are longer than the other two; the flowers are always cruciform, and the plants contain nitrogen.

Tetradyna'mous. Belonging to the class tetradynamia, or varying into it.

TETRAGYNIA. (*Tessares*, four: *gune*, female.) The fourth order of the classes before Dydanamia. It has four styles (or sessile stigmas) to each flower.

TETRAN'DRIA. (*Tessares*, four; *aner*, male.) The fourth class of Linneus, having four stamens to each flower.

Tetran'drous. Belonging to, or varying into, the class tetrandria.

Thalam'ia. See hollows.

Thallus. The frond of a lichen, &c. being the bed or general receptacle whereon the proper receptacles are reposed, or in which they are imbedded. It often constitutes the whole plant.

The'ca. The capsules of mosses: or the frond, or whole herbage of lichens. The cases or cells containing the seeds in the disk of scutellae and some other receptacles of lichens.

Thorn, or spine. A sharp process from the woody part of a plant. It is an indurated imperfect bud, which, when the plant grows in a rich soil, changes to a branch. Pears bear thorns in a poor soil, which disappear in a richer. Willdenow.

Three-edged. (triangularis triquetrous) having the acute angle, with concave faces.

Three-cornered, (trigonus) having three longitudinal angles and three plain faces.

Thyrsioi'des. Flowers disposed in the form of a nosegay.

Thyrse, *thyrsus.* See panicle. A condensed panicle; as grapes, lilac flowers.

Tige. See caulis. The most common stem. Stem used unqualified means caulis.

Tincto'rius. Plants suitable for dyeing or pigments.

Toize, *orgya.* The ordinary height of full size man; about six feet.

Tomentose, *tomento'sus.* Covered with fine downy or cottony substance matted together. See lanate.

Torn, *lacerus.* Irregularly divided by deep incisions.

Toro'se, *toro'sus.* Protuberant. Raised in bunches, or vein-like protuberances, or ridges. Knobs on a toad.

Tor'sio. See intorsion. Turning inwards.

Tor'tuous, *tortilis*, *tortuo'sus.* An irregular bending, inclining to twisting direction.

Torulo'se, *torulo'sus.* With swelling ridges; like the muskmelon.

Torus, receptacle. Though these terms are defined as synonymes, they are differently used by many. Receptacle is merely the termination of a flower-stem or peduncle. *Torus*, Lat. fleshy protuberance. It is an enlarged or thickened mass at the end of a flower-stem, generally differing considerably from the substance of the stem. Sometimes it is a disk or ring, as of the orange. I have seen the inverted conical torus with imbedded carpels of hundreds of the Nelumbium luteum at a time, in Sodus Bay, on Lake Ontario, two inches high, with a two inch base. The straw-berry has a very characteristic torus, whereon its carpels grow. The sunflower furnishes a capacious torus for its achenes.

Trach'eae. The air-vessels of Grew. They are spiral channels, supposed by Grew to be designed for receiving and distributing air in vegetables.

Trai'ling. See procumbent. Lying or hanging down.

TRANSLU'CENT. Transmitting light faintly; perforate.

TRANS'VERSE, *trans'versus.* Crosswise. It is applied to a partition when it meets the valves of a pericarp in any other part than at the sutures.

Trapezifor'mis. Having four unequal edges. But none of those opposite edges generally parallel.

TREE, *(arbor.)* A large woody plant, with a bole.

TREE-FORM, (dendroides.) Divided at the top into a number of fine ramifications, so as to resemble the form of a tree.

TRIAN'DRIA. *(Tris,* thrice; *aner,* male.) The third Linnean class, having three stamens to each flower; as all grasses.

TRIAN'DROUS. Bolonging to, or varying into, the class *Triandria.*

TRIAN'GULAR, *triangula'ris.* Having three angles or corners. It is applied to a leaf with 3 points or corners.

TRIBES, *tri'bus.* See gentes and cotyledons.

TRIBRAC'TEATE. Having three bracts.

Tricæ. See buttons. Button-form. A shield of lichens, the surface of which is covered with sinuous concentric furrows.

Trichiolium, or pecten, is a tender simple, or sometimes branched hair, which supports the sporules of some fungi; as Geastrum.

Tres,-tria (three)—used in composition; as *trichotomous,* 3-forked; *tricoccous,* 3-grained; *tricuspidatus,* 3-pointed; *tridentatus,* 3-toothed; *triduus* 3-days duration; *trifarius,* facing 3-ways; *trifidus,* 3-cleft; *triflorus,* 3-flowered; *trifoliatus,* 3-leaved; *triglochis,* 3-barbed; *trigonus,* 3-cornered; *trijugus,* 3-paired; *trilobus,* 3-lobed; *trilocularis,* 3-celled; *trinervis,* 3-nerved; *trinus,* with leaves in threes; *tripartitus,* 3-parted deeply; *tripetalous,* 3-petalled; *triphyllus,* 3-leaved; *tripinnatus,* 3-pinnate (petiole pinnate, and these again pinnate); *tripinnatifidus,* tripinnatifid, (pinnatifid leaves again and again pinnatifid;) *triplinervis,* thrice nerved or 3-nerved; *triplicompositus,* thrice compound; *tripteris,* 3-winged; *triquetrus,* 3-sided; *trisperma,* 3-seeded; *triternatus,* thrice in threes (petioles divided into threes three times.)

TRIGYN'IA, *(treis,* three, *gune,* female.) The third order of any class back of Didynamia—having three styles, or sessile stigmas, to the flower.

TRIV'IAL NAME, *trivia'lia, no'mina.* The name of a species, not including the descriptive terms. *Trivial name* is now superfluous; as specific name is no longer used for the descriptive terms.

TRUMPET-SHAPED, (tubaeformis, tubalus;) hollow, and dilated at one extremity.

TRUNCATE, *trunca'tus.* The end appearing as if cut off.

TRUNK, *trun'cus.* The bole of a tree. It is also applied to the stem of plants not woody: and sometimes to the caudex of a root.

TUBE. The hollow cylinder of a monopetalous corol.

TU'BERCLES, *tuber'cula.* That kind of receptacle of lichens, which is spherical or slightly conic, nearly closed, crustaceous, black; more or less immersed in the surface of the crustaceous frond, which it elevates; or sometimes it is exposed, being merely sessile. Each contains a ball, or mass, of connected seeds, destitute of cells, enveloped in a common membrane. The whole mass of seeds is at length discharged together by an orifice at the top of the tubercle. We often find these tubercles after the seeds are discharged.

TUBER'CULATE *tuber'cula.* Warty.

Tuburculum, (cephalodium) is a convex shield without an elevated rim.

TU'BEROUS, *tubero'sus.* Roots which are thick and fleshy, but not of any regularly globular form. They are *knobbed,* as potatoe; *oval,* as orchis, and some anemones; *abrupt,* as the bird-foot violet; *fascicled,* as the asparagus.

TU'BULAR, *tubula'tus.* Having a tube, or being in the form of a tube.

TU'BULOUS, TUBULOSE, *tubulo'sus.* That corol of a compound flower, which forms a whole tube, not a ligulate floret. It is also applied to a perianth, if the whole or the lower part is a hollow cylinder.

TUFT'ED. See fascicled. In a bunch or bundle, as pine leaves.

TU'NICATE. Coated. Covered as with a garment.

TUR'BINATE, *turbina'tus.* Top-form. A cone with the point downwards.

TUR'GID, *turgi'dus.* Thickened, swollen, but not inflated.

TU'RION, *tu'rio.* Immature scaly shoots, as of the asparagus.

Turnip-form, (napiformis,) a flattened sphere.

Twin. Two connected, or growing together.

Twi'ning. Ascending spirally. See dextrorsum and sinistrorsum.

Twist'ed. (torsiva, spiraliter, contorta,) contorted without obliquity of insertion. See coiled.

Two-edged, (anceps-) Compressed, with sharp edges.

Two-ranked, or two-rowed. See distichus. Rows on opposite sides.

V.

Vagina. Sheath. That prolongation of a leaf which forms a cylinder around the stem. See sheath of grasses.

Vagi'natus. Sheathed. *Vagi'nans.* Sheathing.

Valva'tus. Resembling the valves of a glume.

Valve, *val'va.* The several pieces of a pericarp which separate naturally on ripening, are called valves. Also the leaves, or chaffs of a glume. Each piece is called a valve. This name is sometimes applied to the scales, which close the tube in some corols.

Variety, *varie'tas.* The changes produced among plants of the same species by accidental causes; as by soil, situation, culture, climate, &c. These changes respect *magnitude, fulness* of flowers, *crisping* of leaves, *color, taste* and *smell.* If the same kind of plant can possibly be produced from the seed of other kinds, these are but varieties of the same species. All apples are but varieties of the same species; because if the seeds of a sour apple be planted, they will produce trees bearing sour, sweet, tart, red, green, large and small apples, promiscuously. But the quince is a different species; because it cannot possibly be produced from apple seeds.

Vasculares, or plants furnished with spiral vessels, and propagated by the agency of the stamens and pistils. *Cellulares,* or plants destitute of spiral vessels, and not progagated by the agency of stamens and pistils; as fungi, lichens, mosses.

Vaulted. Arched over like the roof of the mouth; as the upper lip of some labiate corols.

Veg'etable. An organized substance, whose procreative organs decay before the individual dies.

Vegetable kingdom. This is the name Linneus gives to all the subjects of the science of Botany.

Vegetable substance. The *elementary principles* of vegetables are carbon, hydrogen and oxygen; some contain nitrogen.

The *proximate principles* are very complicated, and belong to the deparment of chemistry; as wax, essence, &c.

Veil. See calyptra, and volva. Calyx of mushrooms.

Ve'lutinus. Velvety. Covered with soft short hairs; densely set, so as to resemble velvet to the feel.

Vel'vet (velumen, velutinus.) When hairs are short, ver dense and soft, but rather rigid, and forming a surface like velvet.

Velum, or veil, is a horizontal membrane, connecting the margin of the pileus with the stipes; when it is adnate with the surface of the pileus, it is universal; when it extends only from the margin of the pileus to the stipe, it is partial.

Vent. Aperture for the discharge of both feces and urine.

Ven'tricles. The large cavities of the heart. All animals of the classes mammalia and aves, have two ventricles to the heart—amphibia and pisces but one.

Ventricose, *ventrico'sus.* Swelling out as if blown up with wind. Or rather bellied out. See inflated.

Ver'mes. All avertebral animals excepting insects. Linneus.

Verna'lis. Coming forth early in the spring.

Verna'tion, *verna'tio.* See foliation.

Verru'cae. Variously formed protuberances, solid and usually smooth on the crust of some lichens. Sometimes the receptacles grow on them. They often appear to be warts or roundish excrescences, formed of cellular tissue filled with opaque matter.

Verruco'se, *verucosus.* Warty. Having little warty knob-like substances on the surface.

Ver'satile, *versa'tilis.* Lying horizontally and moving freely on a point. Particularly applied to anthers lying on the point of the filaments.

Vert'ebrate. Contracted at intervals, so as to resemble (in general appearance) the joints, or vertebrae of breathing animals.

Ver'tical, *vertica'lis*. Standing or hanging up and down at right angles with the horizon, or parallel to the stem.

Ver'tebral animals. One of the four grand divisions of animals, characterized by having back bones. Avertebral animals have no back bones, as oysters, lobsters, &c.

Verticilla'tus. See whorled. Leaves or flowers surrounding a stem. Petals. sepals, and the undivided sections of calyx and corol, are metamorphosed leaves in whorls; also stamens.

Vesic'ula. Inflations of the thallus filled with air, by means of which the plants are enabled to float on the surface.

Vesic'ular, *vesicula'ris*, Containing, or consisting of, a cellular substance.

Vexil'lary, (vexillaris.) When the banner of a papilionaceous corol greatly exceeds the wings in size; as in the genus Vexillaria.

Vexil'lum. See banner of pea-flowers, and other papilionacea.

Vibris'sae. Smellers. Hairs of a peculiar kind, generally very stiff, growing on or near the nostrils of cats, &c.

Vigi'liæ planta'rum. The determined hours of the day, when curtain plants expand and shut their flowers. See sleep.

Villo'se, *villo'sus*. Having a superficicl covering of long soft whitish hairs. The calyptra of some mosses consist wholly of a mat of hairs.

Vi'men. A withe. A twig which is slender and flexible.

Viola'ceous. Violet coloured.

Viries'cens. Inclining to green.

Vir'gate, *virga'tus*. Wand-like. Slender rod.

Vir'ides. Green. Greenish.

Viro'sus. Nauseous disgusting smell. Poisonous.

Vis'cid, *vis'cidus*. Covered superficially with a tenaceous juice.

Viscid'ity, *viso'sitas*. Clamminess. Possessing an adhesive quality.

Vitel'linus. Yellow with a tinge of red.

Vitellus. A thin substance in the seeds of some plants, closely connected with the embryo, but never rising out of the ground with it in germination. It is never in plants with genuine ascending cotyledons; and perhaps it may serve to perform the functions of cotyledons. It is between the albumen and embryo, when albumen is present. It composes the bulk of the seeds of mosses and ferns.—Smith.

Vit''reus. Glassy, colourless. See hyaline.

Vivip'arous. Producing its offspring alive, either by bulbs instead of seeds, or by seeds germinating on the plant. It is applied to animals produced alive, not from the egg.

U.

Uligino'sus. Growing in damp places, or fens.

Um'bel, *umbel'la*. That kind of inflorescence, where several flower-stems diverge from one place, like the braces of an umbrella; bearing florets on their extremities. If these flower-stems are subdivded, a *partial* umbel is formed.

Umbellif'erous. Bearing umbels; as carrot, dill, fennel.

Um'billet, *umbel'lula*. A partial or lesser umbel.

Umbi'licus. A naval. Applied to shells, it means the perforation in the direction of the spire, as in the nerita, &c.

Umbil'icate, *mubilica'tus*. Navelled. Having a kind of central roundish hollow or protuberance; as on the end of an apple, or of a pompion.

Umbona'tus. See bossed. Having strong protuberances.

Umbrellt-form, (*umbraculiformis*) resembling an expanded modern umbrella, [a violation of the Linnean rule, rejecting modern utensils.] A convex radiated hemisphere.

Um'brinus. Umber colour. Snuff-brown. A brown shade.

Unarm'ed. Having no thorns nor prickles.

Unica'lis. As long as the thumb nail.

Un'cinate, *uncina'tus*. Hooked at the end, See hamus.

Un'dulate, *undula'tus* or *unda'tus*. Wavy. Rising and falling, or extending and receding in waaes.

Une'qual. The parts not corresponding in size, form, duration, or symmetry.

Unguic'ulate, *unguicula'tus.* A petal with a claw. Claw-like.

Un'gulate, *ungula'tus.* In the form of a horse's hoof; as the common touch-wood, (boleteus igniarius.)

Unicapsula'ris. Having one capsule to each flower.

Unifor'mis. All parts alike, or corresponding, symetrically.

Unilat'eral, *unilatera'lis.* See one-sided.

Unilocula'ris. One-celled.

Univascula'ris. Having one cup-form cell.

Univer'sal, *universa'lis.* See partial, opposed to which it it applied.

Vol'va. The wrapper, called the involucrum by Linneus. It is orginally the envelope of the agaric, (common toadstool) but is left at its base (bottom of the stipe) as the fungus grows up and bursts this envelope.

Volu'bilis. See twining.

Urceo'late, *urceola'tus.* Bellying out like a pitcher, and not contracting much at top.

U'rens. Stinging, armed with stings. Burning.

Urn form. Swelling in the middle and contracting at the top; as the calyx of the rose.

Uropy'gial. Several long feathers above on each side of the tail, differing in form from the others.

Ustila'go. Smut in grain.

U'tricles. The little bag-like reservoirs for sap, air, &c.

Utric'ulus. A little bladder, with a very thin membranous pericarp, which does not adhere to the seed; as of the pig-weed.

Utrin'que acu'tus. Sharpening at both ends.

—— *glab'er'villo'sus*, &c., sleek, downy, &c., both sides.

W.

Wat'tles. Pendant fleshy appendages under the chin of some swine and other animals.

Wa'ved, or wavy. See undulate. Curve-zigzag.

Waxy, (ceraceus, cereus) having the colour and texture of new made wax.

Wedg'e-form. Obovate with straitish sides. See cuneiform.

Wheel-form. A monopetalous corol with a spreading border, and an extremely short tube, or none.

Whip-form (flagelliformis) long, tapering gradually, supple—resembling a whip-lash.

Whi'tened, (dealbatus.) Covered with an opaque white power.

Whorl'ed. Surrounding the stem in numbers at intervals; as the leaves of bed-straw, and the flowers of motherwort. It is applied to the spiral convolutions of univalve shells.

Wings. The two side petals in a papilionaceous corol.

It is also applied to the membranes affixed to seeds or pericarps. *Monopterygia*, 1-winged; *Dipterygia*, 2-winged; *Tripterygia*, 3-winged; *tetrapterygia*, 4-winged; *pentapterygia*, 5-winged; *polypterygia*, many-winged.

Withe. See vimen. A flexible wand. Twisted twig.

With'ering. Having a shrivelled and decaying appearance, though not actually in a state of decay; as the flowers of elm, (ulmus.) See Marcessant.

Wood. The most solid part of trunks and roots of trees and shrubs. It is also applied to the part of herbaceous plants between the bark and pith. The concentric layers of the wood and bark are the reverse of each other; the former increasing externally, the latter internally. The former having a zone of cellular tissue inside, and of woody fibre and ducts outside; the latter having a zone of woody fibre with a few ducts inside, and of cellular tissue outside. Wood probably consists of fibres produced by the compressed of greatly elongated spheroids into hollow paralellolpipeds. These primarily taper to each end and lie in bundles.

Z.

Zig-zag. Flexuous, bending alternately in opposite directions. See flexuose.

Zool'ogy. The science of animals.

Zoo'phytes. Animal plants: such as the polypi which inhabit sponges, coral rocks, sea fans, &c.